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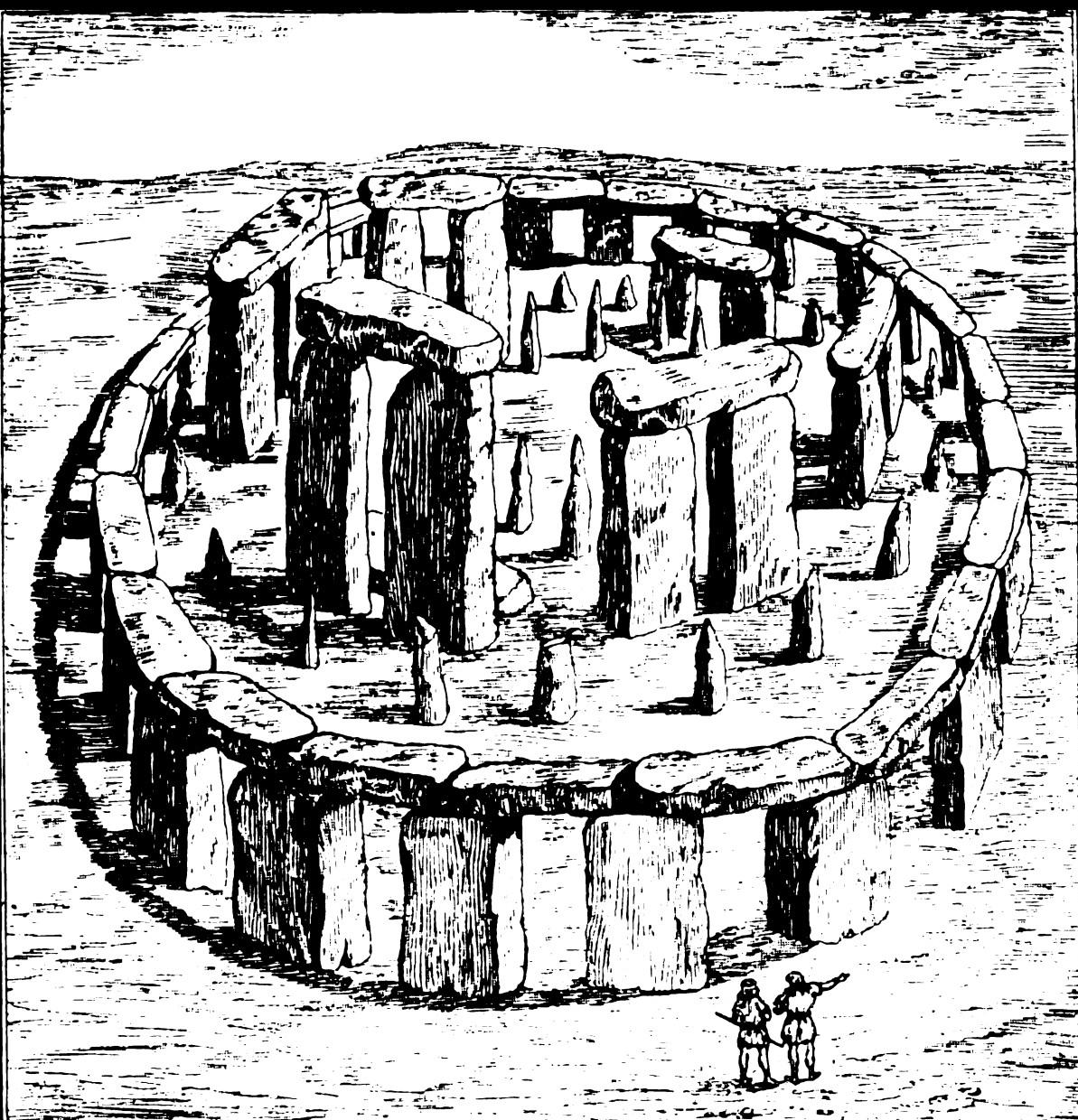
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The Indian and antiquities of America

Barnard Shipp

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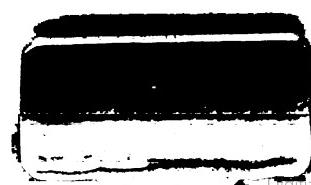
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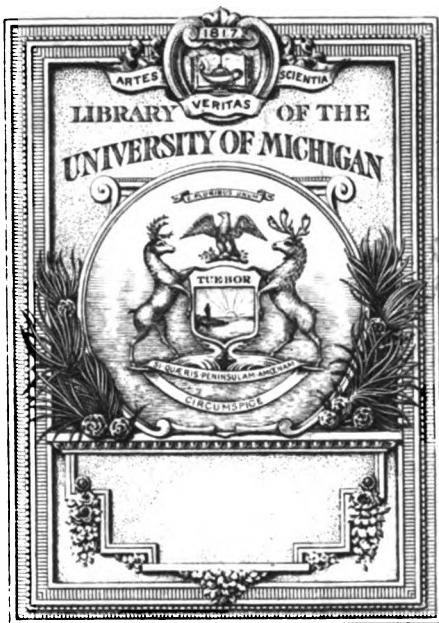
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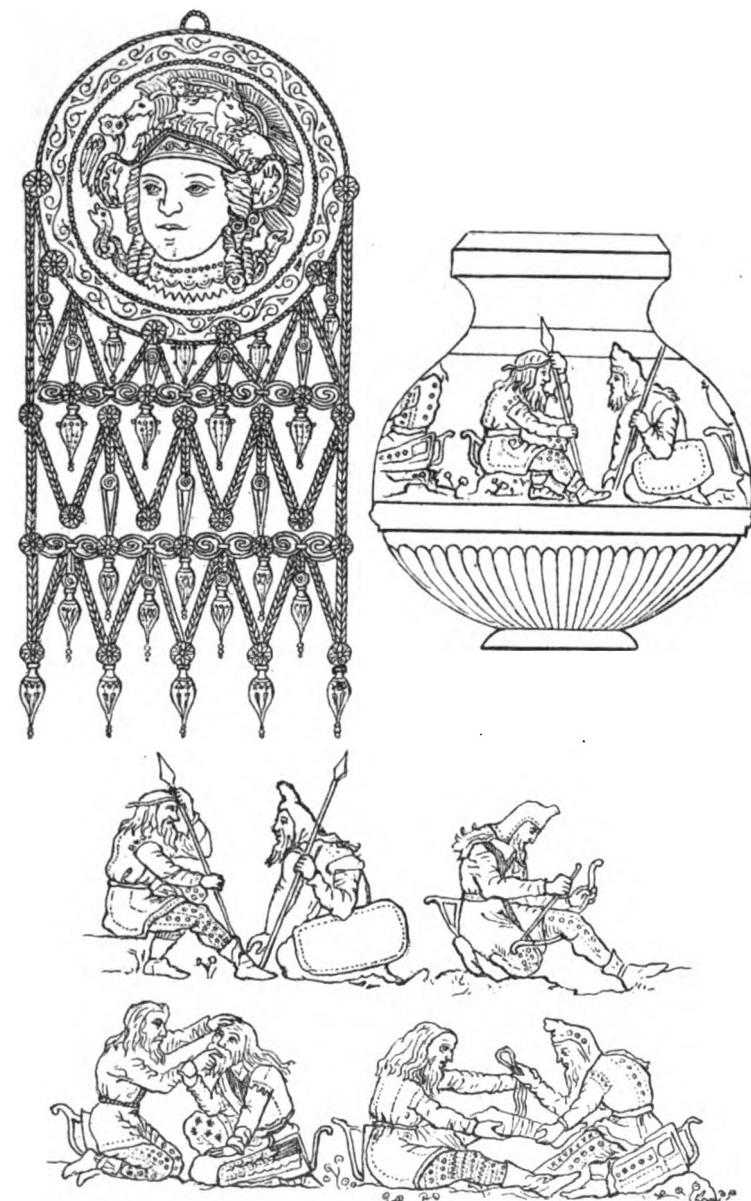
BY HIS FAMILY TO THE

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S 54



1. Ornament found in the Tomb of Kauloba
 2. Electrum Vase for perfumes, found near the Queen's remains
 3. Embossed Work running round Vase

SCYTHIAN RELICS FOUND IN THE TUMULUS.

THE
INDIAN AND ANTIQUITIES
OF
AMERICA.
BY
BARNARD SHIPP.

PHILADELPHIA:
SHERMAN & CO., PRINTERS.
1897.

ERRATA.

- Page 78, line 18 from bottom: beneficial should be beneficent.
" 170, Note: after Domineche should be a period, and then should follow, Alvarez Nunez Cabeza de Vacca, etc.
" 198, sixth line from bottom: fruit should be forest.
" 203, seventh line from bottom: Redney should be Rodney.
" 206, last line: southwestwardly should be southwardly.
" 207, third line: southwestwardly should be southwardly.
" 228, sixth line from bottom: belts should be bells.
" 257, ninth line from bottom: in should be on.
" 341, eleventh line: northwest should be narrowest.
" 356, eleventh line: and ninety-two—should be omitted.
" 356, seventh line from bottom: Ordony should be Ordonez.
" 357, eighth line: of should be at.
" 357, Note, line next to bottom: than to Norway, should be than Norway.
" 368, seventh line from bottom: where should be when.
" 386, fourth line from bottom: Mediterranean should be mediterranean.
" 388, ninth line: Cydmus should be Cydnus.
" 390, tenth line: these ports should be their ports.
" 393, second line: put in should be put on.
" 401, Note: Logus should be Lagus. Soter Onesicritus, Soter, Onesicritus.
" 402, eighth line from bottom: of Arabii should be of the Arabii.
" 404, sixth line: certain rocky should be certain high rocky.
" 405, third line from bottom: were seen should be were now.
" 417, seventh line: was should be were.
" 417, eighth line from bottom: Alexandria should be Alexander.
" 434, eighteenth line: Phoenician should be Phocean, and the Note, Martin's History of France should be A Thierry, Historie des Gaulois.
" 443, eleventh line: Origama should be Orizama.

William J. Smith collection

Gift
12-17-49

P R E F A C E.

IMPRESSED with a belief that many persons had an erroneous idea regarding the tumuli of America, I undertook to show, by giving accounts of similar works scattered over Europe and Asia, that such monuments were not peculiar to America. The collection of these facts led me to other considerations, and I conceived the idea of a comparison of the tumuli and ancient monuments of the Old World with those of the New World, and so I collected descriptions of some of the most remarkable tumuli and ancient monuments of America. As I advanced the prospect enlarged, and, considering the material I had collected would serve to illustrate history, I gathered additional facts of a different character to use in connection with the preceding, to demonstrate that an intercourse existed between the two hemispheres in very remote ages, and to show the probable origin of the peoples who inhabited North America when it was last discovered by Europeans.

The title of this book, though expressing the principal subjects of which the most of this volume consists, yet neither of INDIANS nor of ANTIQUITIES does it give a full account, and it is the same of the other subjects, viz.: the remarkable *tumuli* and *monuments* of remote antiquity; the most ancient *navigation, navies, vessels, voyages, colonies, and commerce* of the Old World.

The information on the great variety of subjects of which this book treats has been derived from divers sources; some from the works of men eminent in science; some from the narratives of distinguished and reliable travellers; some from the histories of celebrated authors, both ancient and modern; and, finally, some from the accounts of recent travellers confirming what has been related by those who had preceded them. With this notice, and a reference to the table of contents, a correct idea can be formed of the plan and object of this work.

*

When we consider the grandeur and power of the nations of antiquity, of the people of Babylonia (of whom there is now abundant written evidence that they existed and were civilized seven thousand years before the Christian era), and that India was, probably, at the height of its prosperity when Egypt and Assyria were but in their infancy, we are deeply impressed with a consciousness of how little we know of the past. But the events recorded in this book lead me to believe that in very remote ages the Egyptians, the Phoenicians, the Hebrews, and the Carthaginians had, at different times and intervals, intercourse with the nations of the New World; that when this intercourse ceased it was, in the course of time, so far forgotten that the vague recollection of it became the myth of the lost Atlantis; and that when the Mongols overran Asia and a part of Europe, or, ever later, when these Mongol conquerors were expelled from China, and probably from Northeastern Asia, Tartar hordes sought refuge in North America, exterminated its inhabitants, and took possession of this continent.

BARNARD SHIPP.

Philadelphia, Pennsylvania,
August 3, 1897.

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THE INDIAN AND ANTIQUITIES OF AMERICA.

CHAPTER I.

The Tumuli—Derivation of the word Tepe—The Ancient Uses of Tumuli—Superstitious Ideas in Regard to Them—Serpent Mounds—Serpent Worship—Sacred Fires—The Earliest and the Latest Tumuli—Different Kinds of Tumuli—Their Age and Multitude.

TUMULI, a name generally given to those hillocks or mounds of earth which were anciently erected over the bodies of deceased heroes or persons of distinguished character, are considered by a learned antiquarian as the most ancient sepulchral monuments. This mode of interment may be traced to remotest antiquity, and the religion of those times had much to do with the erection of these monuments, as the earliest records of these times plainly indicate. And as religious ideas are the most tenacious and most durable that possess the human mind, so have they been transmitted from generation to generation through many thousands of years; and it is by reference to these religious rites that some knowledge can be acquired of their construction, and the motives and purposes of their erection, and that the relations of different and distant nations in past ages may be traced through many centuries.

Bryant, in his "Analysis of Ancient Mythology," treats of religious rites and customs in their relation to the tumuli of the Old World. He says :

"Lower Egypt being flat, and annually overflowed, the natives were forced to raise the soil on which they built their principal edifices, in order to secure them from the inundation; and many of their sacred towers were erected upon conical mounds of earth. But there were often hills of the same form constructed for religious purposes, upon which there was no building. These were very common in Egypt. Hence we read of Taphanes, Taph-Osiris, Taph-Osiris-Parva, and contra Taphias, in Antoninus, all of this country. In other parts Taphiousta, Tape, Taphusa Tapori, Taphus, Taphorus, Taphitis. [Though here the word Tape—Tepe

—is derived from taphos, yet it is probable that Tepe is an *aboriginal* word.] All these names relate to *high altars*, upon which they used oftentimes to offer human sacrifices."

Typhen, compounded of Tuph-On, which signifies the hill or altar of the Sun, was one of these. Tophet was a mount of this form. "They have built the high places of Tophet, which is in the valley of the son of Hinnon, to burn their sons and their daughters in the fire." "They have built also the high places of Baal, to burn their sons with fire for burnt offerings unto Baal."* These cruel operations were generally performed upon mounts of this sort, which from their conical figure were named Tuph and Tupha. It seems to have been a term current in many countries.

"The Amonians, when they settled in Greece, raised many of these Tupha or Tapha in different places. As it was usual in ancient times to bury persons of distinction under heaps of earth formed in this fashion, these Tapha came to signify tombs; and almost all the sacred mounds, raised for religious purposes, were looked upon as monuments of deceased heroes. Hence Taph-Osiris was rendered Taphos, *Toφος*, or the burying-place of the God Osiris; and, as there were many such places in Egypt and Arabia sacred to Osiris and Dionusus, they were all by the Greeks esteemed places of sepulture. The tumulus of the Latines was mistaken in the same manner. It was originally a sacred hillock, and was often raised before temples as an altar. In process of time the word tumulus was in a great measure looked upon as a tomb; and tumulo signified to bury. The Greeks speak of numberless sepulchral monuments, which they have thus misinterpreted."

"These supposed places of sepulture were so numerous that Clemens Alexandrinus tells us they were not to be counted. But after all, these Taphoi were not tombs but conical mounds of earth, on which, in the first ages, offerings were made by fire."

These learned remarks of Bryant are interesting and instructive. They show the great age and the great multitude of ancient artificial mounds. Some were erected for religious purposes, and others as tombs and monuments of heroes and illustrious men. At the tombs of these heroes religious ceremonies were sometimes performed, and sometimes the hero was even deified; so it may be said some of these mounds partook of both a religious and a sepulchral character. Bryant himself says "that it was usual in ancient times to bury persons of distinction under heaps of earth in this fashion," that is, under a "conical mound of earth." Cheva-

* Jeremiah, c. 7, v. 31, and c. 19, v. 5.

lier, in his "Description of the Plains of Troy," says : " Mr. Bryant has endeavored to prove that the Greeks were mistaken in supposing what were sacred mounds to be the tombs of heroes. But the concurrent testimony of Homer and all antiquity is sufficient to convince us that they had no other way of preserving their ashes than by depositing them under these hillocks. Barrows of a similar shape and of the same sort are to be found in all cemeteries, and wherever any trouble has been taken to ransack them, the remains of human bones have always been found within them. Some few of them might be particularly consecrated to the ceremonies of religion, but it cannot be denied that the greatest number was destined to the purpose of containing the ashes of heroes and other great men."

Bryant says, "When towers were situated upon eminences fashioned very round they were, by the Amonians, called Tith, which answers to *Tē Thē* and *Tē Thēos* of the Greeks. They were so denominated from their resemblance to a woman's breast and were particularly sacred to the deities of light. Mounds of this nature are often termed from their resemblance *μαστοειδης λοφος*.

"These mounds, *tophoi mastoides*, were not only in Greece, but in Egypt, Syria, and most parts of the world. They were generally formed by art; being composed of earth raised very high, which was sloped gradually and with great exactness: and the top of all was crowned with a fair tower. The situation of these buildings caused them to be looked upon as places of great safety, and the reverence in which they were held added to their security. On these accounts they were the repositories of much wealth and treasure. There were often two of these mounds of equal height in the same enclosure. The Mezraim called these hills Typhon. In these temples the sun was principally adored, and the rites of fire celebrated. The ground set apart for such use was generally oval, and towards one extremity of the long diameter, as it were in the focus, were these mounds and towers erected. They were termed *Tarchon*, which by corruption was in later times rendered *Trachon*. There were two hills of this denomination near Damascus. These were hills with towers. Solomon takes notice of a hill of this sort upon Lebanon looking towards Damascus.* The term *Trachon* seems to have been still further sophisticated by the Greeks, and expressed *Dracon*, from whence in a great measure arose the notion of treasures being guarded by Dragons. Such are the poetical representations; but the history at bottom relates to

* Canticles, c. 7, v. 4.

sacred towers, dedicated to the symbolical worship of the serpent, where there was a perpetual watch, and a light ever burning. The Titanian temples were stately edifices erected, in Chaldea, as well as in Lower Egypt, upon mounds of earth.

"The ancients sometimes wilfully misrepresented things, in order to create wonder. Iphicrates relates that in Mauritania there were dragons of such extent that grass grew upon their backs. It is said of Taxiles, a mighty prince of India, and a rival of Porus, that upon the arrival of Alexander the Great, he showed him everything that was in his country curious, and which could win the attention of a foreigner. Among other things, he carried him to see a dragon, which was sacred to Dionusus, and itself esteemed a god. It was of a stupendous size, being in extent equal to five acres; and resided in a low deep place, walled to a great height. The Indians offered sacrifices to it, and it was daily fed by them from their flocks and herds, which it devoured at an amazing rate: that it was treated rather as a tyrant than a benevolent deity. Two dragons of a like nature are said to have resided in the mountains of Abisares, or Abiosares, in India; the one was eighty cubits in length, the other one hundred and forty.* Similar to the above is the account given by Posidonius of a serpent which he saw in the plains of Macra, a region in Syria; and he says it was about an acre in length, and of a thickness so remarkable that two persons on horseback, when they rode on the opposite sides, could not see one another. Each scale was as big as a shield, and a man might ride into its mouth. What can this description allude to but the ruins of an ancient Ophite temple, which is represented in this enigmatical manner to raise admiration. The plains of Macra were not far from Mount Lebanon and Hermon, where the Hevites resided, and where serpent worship particularly prevailed. The Indian dragon seems to have been of the same nature. It was probably a temple and its environs, where a society of priests resided, and worshipped the Deity under the semblance of a serpent. The python of Parnassus is well known, which Apollo is supposed to have slain. After all, this dragon was a serpent temple; a *tumbos* formed of earth."

Plutarch takes notice that in the temple of Amon there was a light continually burning. The like was observable in the temples of the Egyptians. Pausanias mentions the lamp of Minerva Polias, at Athens, which never went out; the same custom

* "Strabo," l., 15.

was kept up in most of the Prutaneia.* The Chaldeans and Persians had sacred hearths on which they preserved perpetual fire. In the temple of Apollo Carneus, at Cyrene, the fire upon the altar was never suffered to be extinguished. A like account is given by Said Ebn Batrik of the sacred fire which was preserved in the great temple at Aderbain in Armenia. A nation in India called Caimachitae had large Puratheia, and maintained a perpetual fire. According to the Levitical law a constant fire was to be kept up upon the altar of God.† The Roman Catholics keep lights continually burning before their altars.

"Towers of this sort were often consecrated to the Ophite deity called Opis and Oupis. The temple was called Kir-Upis, which the Greeks abridged to Grupes; and finding many of the Amonian temples in the north with the device of a winged serpent upon the frontal, they gave this name to the hieroglyphic. Hence, probably, arose the notion of Gryphons—*Grupes*, which like the dragons were supposed to be guardians of treasures, and to never sleep. The real conservators of the wealth were the priests. They kept up a perpetual fire, and an unextinguished light in the night. From Ker Upis, the place of his residence, a priest was named Grupes. The poets have represented grupes as animals of the serpentine kind, and supposed them to have been in countries of the Arimaspians, Alazonians, Hyperboreans, Scythic nations of the same family, and other northern regions which the Amonians possessed."

This name, Amonian, Bryant applies to the descendants of Ham. He says: "They were all of the line of Ham, who was held by his posterity in the highest veneration. They called him Amon, and have in process of time raised him to a divinity; they worship him as the sun, and from his worship they were styled Amonians. Under this denomination are included all of this family; whether they were Egyptians or Syrians, of Phenicia, or of Canaan. There once existed a wonderful resemblance in the rites, customs and terms of worship among nations widely separated. This similitude of terms, and the religious system which was so widely propagated, were owing to one great family who spread themselves almost universally. Their colonies went abroad under the sanction of their priests, and carried with them both the rites and the records of their country."‡

* Prutaneia, Temple of Vesta, where the sacred fire was kept. Puratheia, Persian fire temple.

† Leviticus, c. 6, v. 13.

‡ Bryant's "Analysis of Ancient Mythology."

This opinion of Bryant that one family and its colonies and descendants spread their religious ideas and rites over the whole world may appear plausible to many, but the nature of man has been the same in all ages, and in all climes. The same sun that shone for the Persians shone also for the Peruvians, and they both worshipped it. There is no more perfect symbol of the sun than fire, and they both adopted it.

Earthern pottery has been made by nearly all the nations of the world, and in all ages, but it is not necessary to refer all these to one and the same origin. The same necessity and the same material were the origin of the earthern utensils of the Old World and of the New.

Because a god of war was worshipped in Mexico, it is not necessary to trace its origin to Mars, in order to account for the idolatry of the Mexicans.

But notwithstanding all this, religious ideas, rites, and ceremonies have been transmitted from nation to nation through a long succession of ages. While we find in the Old World the historical record of these facts, the New World presents the material evidence of a similar transmission.

Tumuli, or ancient artificial mounds, are found almost everywhere where the human race has inhabited. They are found in America in various places, from the Great Lakes to Chili. In the Old World they are found in localities from the Atlantic to the Pacific Ocean, and from Siberia to India. The Assyrians, the Persians, the Babylonians and the Greeks made them. The Celts and the Saxons, the Scythians, Mongolians and Hungarians, all these peoples made mounds over their dead. The earliest, or at least one of the earliest of recorded mounds was that erected by Semiramis over the remains of Ninus, 3810 years ago. Semiramis buried Ninus within the precincts of the palace, and erected over him a hugh mound.

Diodorus Siculus says of Ninus: "He was interred at Ninive in a sepulchre that was made for him of a marvellous bigness, being in height, according to Etesias, nine hundred and thirty-seven and a half fathoms, and about half a league about; which hugh structure [in regard to the city] seated in a plain country by the Euphrates, is seen afar off, as it were a castle; and it is said that it is yet in being, although the Medes did long since destroy the city of Ninive, when they ruled over the Assyrians."

Of Semyramis Diodorus says: "Semyramis went into Persia and other regions of Asia under her rule and dominion, and everywhere caused mountains and rocks to be cut in sunder to make

the ways easy for travellers, and in the plain and flat countries she cast up great mounds of earth whereon she built either sepulchres for her commanders, or some cities and towns. It was her manner also to raise up high banks in her camp, where she pitched her tent, that from thence she might take a view of her army. Of all these are many marks and ruins in Asia remaining to this day, which are still said to be the work of this queen."

The most recent monument of this kind, raised in memory of distinguished men, is that erected by the people of Poland in memory of Kosiusco, the Polish patriot and hero, the friend of Washington. This mound was made in the year 1819, by the voluntary labor of the Polish people. It has a base 300 feet in diameter, and an elevation of 175 feet. Within this long period of time, from Ninus to Kosiusco, the Assyrians, the Babylonians, the Egyptians and the Persians have passed away; the empires of the Macedonians, the Romans, the Mongolians and the Arabs have risen and perished; while multitudes of kingdoms, nations and tribes have passed into oblivion, so to no one nation can the erection of these mounds be attributed as the sole authors of them, or referred as the peculiarity of that particular nation. There was no nation of mound-builders in the Old World.

These monuments of the Old World, the remains of extinct peoples, are known to have been increasing in number for nearly four thousand years. When, therefore, we consider the durability of such monuments, and the multitude of nations that erected them in this long succession of ages, it is not surprising that they should be found in almost every country of Europe and Asia. They are found in Ireland, Great Britain, Scandinavia, Germany, France, Poland, Tartary, Siberia, China, India, Asia Minor and Greece, and in the countries along the northern and southern shores of the Mediterranean.

Some of these mounds are the tombs of heroes, kings and chiefs, and some were erected for religious purposes. Some have been erected by the command of kings; some by the voluntary act of a nation. In some countries they are known to the people by the name of him who is interred beneath them. The history of some of remote antiquity is known, while the origin of others is lost in the remoteness of time. They are known by the names tumuli, barrow, mohill, tepe, and, when made of stones, cairns. In form they are conical, oblong, bowl-shaped, truncated cones, and quadrilateral. The oldest are long-shaped and in the form of a gigantic grave, often depressed in the centre and elevated towards one end. The bowl-shaped tumuli seem to have succeeded this early form.

The sepulchral mounds of a later date are broad and low, surrounded sometimes with an earthen vallum, and sometimes, particularly in Scotland and Scandinavia, by a circle of standing stones.* There is also a peculiar monument in Scotland which has the form of a great serpent, and there are similar ones in India.

CHAPTER II.

The Burial of Patroclus—The Burial of Hector—The Tumuli of Platea—The Tumuli of Marathon—Modern Accounts of those of Marathon—The Burial Place of Lydian Kings—The Tumulus of Alyates, the Father of Croesus—Herodotus's Account of it—Dr. Chandler's Account of it—Ancient Custom of the Greeks in Regard to Tumuli.

HOMER, who lived in the tenth or the ninth century, before the Christian era, describes the burial of Patroclus and Hector, who perished twelve centuries (1270) before the Christian era.

In describing the burial of Patroclus he says : " Men were sent to the foot of Mount Ida, with axes keen, to hew the lofty oaks. The wood they clove, and bound it to the mules ; these took their way, hurrying to the plain. The axemen too were laden all with logs, which on the beach they laid in order, where a lofty mound in memory of Patroclus and himself Achilles had designed. When all the store of wood was duly laid the Myrmidons put on their armor and harnessed each his horses to his car, and on the cars warriors and charioeteers their places took. First came the horse, and then a cloud of foot unnumbered. In the midst Patroclus came, borne by his comrades. All the corpse with hair they covered o'er, which from their heads they shore. Behind, Achilles held his head, and mourned the noble friend whom to the tomb he bore. Then on the spot by Peleus's son assigned they laid him down, and piled the wood on high."

The crowd was then dispersed, only the chiefs remaining. " The appointed band remained and piled the wood. A hundred feet each way they built the pyre, and on the summit, sorrowing, laid the dead. Then sheep and oxen they dressed around the funeral pyre. Of all the beasts Achilles took the fat and covered o'er the corpse from head to foot, and heaped the slaughtered carcasses around. Then jars of honey placed, and fragrant oils, resting upon the couch. Next four powerful horses were thrown upon the pyre.

* In Asia the oldest have a circle of stones.

Then of nine dogs, that at their master's board had fed, he slaughtered two upon his pyre. Last, with the sword, by evil counsel swayed, twelve noble youths he slew, the sons of Troy. The fires devouring might be then applied. All night the pyre burned, and all night Achilles from a golden bowl, the wine out-pouring, moistened all the earth."

In the morning Achilles gives the following order: "Ye chiefs of Greece. Far as the flames extend quench we first, with ruddy wine, the embers of the pyre. And of Patroclus next: With care distinguishing, collect the bones. Nor are they hard to know, for in the midst he lay, while round the edges of the pyre horses and men co-mixed, the rest were burnt. Let these, between a double layer of fat enclosed, and in a golden urn, remain till I myself shall in the tomb be laid. And o'er them build a mound, not over-large, but of proportions meet. In days to come, ye Greeks, who after me shall here remain, complete the work, and build it broad and high."

Having collected the bones of Patroclus, and in a golden urn encased, "then in the tent they laid them, overspread with veil of linen fair. Then meteing out the allotted space, the deep foundations laid around the pyre and o'er them heaped the earth."

Then followed games with prizes. "The games were ended and the multitude amid the ships their several ways dispersed."

The burial of Hector is thus described by Homer: "First on the burning mass, as far as spread the rage of fire, they poured the ruddy wine, and quenched the flames. His brethren then and friends collected from the pyre the whitened bones. These in a golden casket they enclosed, and o'er it spread soft shawls of purple dye. Then in a grave they laid it, and in haste with stone in ponderous masses covered o'er, and raised a mound. The mound erected, back they turned, and all assembled, duly shared the solemn feast in Priam's palace. Such were the rites to glorious Hector paid."*

Herodotus says: "After the battle of Platea the Greeks proceeded to inter their dead, each nation by themselves. The Lacedemonians sank three trenches—in the one they deposited the bodies of their priests, in the second were interred the other Spartans, and in the third the Helots. The Tegeatæ were buried by themselves, but with no distinction; the Athenians in like manner, and also the Magarians and Philiasians. Mounds of earth were raised over the bodies of all these peoples."

* Homer's *Iliad*, by Edward, Earl of Derby.

Pausanias says: "Marathon is at equal distance from Athens and Caristhea, a town of Eubcea. It was at Marathon that the Persians landed, and where, after a great battle, they were defeated. They also lost many vessels on leaving it. There is seen the sepulchre of the brave Athenians who perished in the battle; upon their tomb they have erected columns where are engraven the names of the tribes and the exploits of the illustrious dead. The Plateans, a people of Beotia, have also there their monument, and the slaves theirs; for on this occasion the slaves were enlisted for the first time. Miltiades, the son of Cimon, has his sepulchre apart. This great man having, after the battle of Marathon, failed at the siege of Paros, was exiled by the people of Athens, and died a short time afterwards." From this account, it appears, there were three mounds; yet Stephens, the celebrated American traveller, who visited the plains of Marathon in 1835, mentions but a single mound. He merely says: "I hurried to the battle-field. Towards the centre was a large mound of earth erected over the Athenians who fell in the battle."

Aubrey DeVere, who published, in 1850, "Picturesque Sketches in Greece and Turkey," says in that book, when mentioning his visit to Marathon: "The field is about six miles long and two broad, and is as flat as the sea. On two sides it is hemmed in by the mountains of Attica, and on one by the low ranges of Eubcea. Within about half a mile of the shore stands the tumulus raised by Aristides over the Athenians who fell in the action." DeVere mentions but a single mound.

Henry M. Baird, in his "Modern Greece," published in 1856, says: "We reached the mound raised over the slain of the battle of Marathon. . . . The hillock or funeral mound under which the one hundred and ninety-two Athenians, who perished in battle, are buried, is perhaps thirty feet high. If its shape was ever angular, time has worn it down to a round form, except where the sacrilegious travellers of this country, in searching for brass and flint arrow-heads, have scraped away some earth from its sides. Standing upon the top of this monument of ancient glory I could easily distinguish the positions most probably occupied by the belligerent parties twenty-three centuries ago. . . . Having now seen all that is most interesting at Marathon we turned our faces westward. Instead of retracing our steps to Vrana, we directed them to the present village of Marathon. . . . We reached it after passing on our left the marble platform supposed to have been that of a monument erected in honor of Miltiades."

Herodotus, speaking of Lydia, says: "If we except the gold-

dust which descends from Mount Tmolus,* Lydia can exhibit no curiosity which may vie with those of other countries. It boasts, however, of one monument of art, second to none but those of the Egyptians and Babylonians. It is the sepulchre of Alyattes, father of Croesus. The ground-work is composed of immense stones; the rest of the structure is a huge mound of earth. The circumference of the tomb is six furlongs and two plethra, the breadth thirteen plethra. It is terminated by a large piece of water, which is called the Gygean lake. The edifice was raised by men of mean and mercenary occupations, assisted by young women, who prostituted themselves for hire. On the summit of this mound there remained within my remembrance five termini, upon which were inscriptions to ascertain the performance of each, and to intimate that the women accomplished the greater part of the work."

Dr. R. Chandler, D.D., in his "Travels in Asia Minor," in the year 1764, speaking of his visit to the burying-place of the Lydian kings, says: "Before Sardes, on the opposite side of the plain, are many barrows on an eminence, some of which are seen afar off. We were told that behind them was a lake, and agreed to visit it. We left Sardes in the afternoon, and repassed the Pactolus farther on. In an hour we came to the banks of the Hermus. We forded with water up to our girths, and then rode among huts of the Turcomans, their large and fierce dogs barking vehemently, and worrying us. The plains now appeared as bounded by mountains. The view westward was terminated by a single, distinct, lofty range, the east end of Mount Sipylus."

"We approached nearer to the high green ridge on which the barrows are, and going beyond its eastern extremity, pitched our tent, after three hours, by a village called Bazocleu.

"We were on horseback again at seven in the morning, and going northwestward for half an hour, came to the lake behind the ridge extending westward, and was anciently called Gygea. It is very large, and abounds in fish, its color and taste like common pond-water, with beds of sedge growing in it. We saw a few swans with cygnets, and many aquatic birds. The air swarmed with gnats. The Lydians asserted it was never dry. The name had been changed from Gygea to Coloe. By it was a temple of Diana, called Colcene, of great sanctity. The privilege of an asylum was conferred on it by Alexander. If the lake be fictitious, the ridge may be regarded as an immense mound raised with the soil.

* It probably was the gold-dust brought down from Mount Tmolus by the river Pactolus that made Croesus so rich.

"By Gygea, which was within five miles of Sardes, is the burying-place of the Lydian kings.* The barrows are of various sizes. Four or five, distinguished for their superior magnitude, are visible as hills at a great distance. The lake, it is likely, furnished the soil. All of them are covered with green turf, and as many as I observed in passing among them retain their conical form without any sinking of the top. One of the barrows on the eminence, near the middle, and toward Sardes, is remarkably conspicuous. This has been described by Herodotus as inferior only to the works of the Egyptians and Babylonians. It was the monument of Alyattes, the father of Croesus; a vast mound of earth heaped on a basement of large stones by three classes of the people; one of which was composed of girls, who were prostitutes. Alyattes died after a long reign, in the year 562 before the Christian era. About a century intervened, but the historian relates that to his time five stones (*opoe, termini* or *stelæ*) on which letters were engraved had remained on the top, recording what each class had performed; and from the monument it had appeared that the greater portion was done by the girls. Strabo also has mentioned it as a huge mound raised on a lofty basement by the multitude of the city. The circumference is six stadia or three-quarters of a mile, the height two plethra or two hundred feet, and the width thirteen plethra.

"It was customary among the Greeks to place on barrows either the image of some animal or *stelæ*, commonly round pillows with inscriptions. The famous barrow of the Athenians in the plain of Marathon, described by Pausanias, is an instance of the latter usage.

"The barrow of Alyattes is much taller and handsomer than any I have seen in England or elsewhere. The mould, which has been washed down, conceals the stonework, which, it seems, was anciently visible.† The apparent altitude is diminished and the bottom rendered wider and less distinct than before. Its measurements, which we were not prepared to take, deserve to be ascertained and compared with those given by Herodotus."‡

* Dr. Chandler, D.D., Fellow of Magdalen College and of the Society of Antiquarians, gives ancient authority for what he states. But his name is sufficient guarantee for the truth of what he relates. So the references are omitted here.

† There are, or were, in the Crimea, enormous tumuli covered in some instances with blocks of limestone, three feet square. This monument of Alyattes may have been stripped of similar stones to erect more modern buildings, and thus the "mould has been washed down."

‡ "Travels in Asia Minor and Greece," by R. Chandler, D.D., in 1764 to 1766.

CHAPTER III.

Chevalier's Visit to the Plains of Troy—The Tumulus of Eesyetes Built Before the Trojan War—The Tumulus of Protesilaus—Alexander's Visit to the Plains of Troy—Alexander Erects "Altars"—Tumuli at Segeum, to Jupiter, Minerva, and Hercules—The Tumulus of Demaratus—Alexander Erects Twelve "Altars" in India—The Scythian Tumuli in the Borysthenes—Herodotus's Account of Them and Dr. Hall's Account of Them—Edmund Spencer's Account of Museum of Kertch and of the Opening of a Tumulus in the Crimea, in the Year 1836—Tumuli in the Crimea of Prodigious Size and in Immense Numbers.

A HUNDRED years ago, 1792, Chevalier visited the Plains of Troy. In his book entitled "Description of the Plains of Troy," he says: "I have not the smallest hesitation in believing that the hillock in the vicinity of Udjek, and which is known by the name of Udjek-Tepe, is a sepulchre; and every circumstance induces me to believe that it is the tomb of Eesyetes, a monument of the most remote antiquity, as it existed even before the time of the Trojan War. Homer alludes to it, and Strabo places it five stadia distant from Troy, on the road leading from there to Alexandria Troas." Besides this tomb, Chevalier mentions the tumuli of Ilus, Patroclus, Antilochus, and Hector, and quotes the following: "When Alexander (according to what has been collected from various ancient authors by Freinsheimius in his supplement to Quintus Curtius) arrived at Sestos, he commanded Parmenio to proceed with the greatest part of his troops to Abydos, on the opposite shore. Himself at the head of the rest marched to Eleus, a place sacred to Protesilaus, whose sepulchre under a mound of earth had been constructed there; for Protesilaus in the flower of his age accompanied his countrymen to Asia, and was the first victim of the Trojan war. On this occasion Alexander performed funeral honors to his manes, praying that his own lot might be more auspicious when he should reach the hostile shore. He then sailed with fifty vessels for Sigeum, and the Grecian haven, so called because it had received the Grecian ships in the time of the Trojan war. When the fleet arrived at the haven, altars were erected on the spot where he had disembarked to Jupiter the Protector, to Minerva, and Hercules. He also commanded altars to be erected in that part of Europe whence he had sailed." Such altars were often erected on the spur of the moment, when they were constructed of earth or stones collected on the spot, and it is

probable that on this occasion the altars were made in this manner. "He next proceeded into the fields where the seat of ancient Troy was pointed out to him, and there, as he was accustomed to admire Achilles, and glory in his descent from that hero, he stripped himself and ran with his friends quite naked around his tomb ; he even anointed it and adorned it with a crown. Hephestion, too, crowned the tomb of Patroclus, as an emblem that the friendship which subsisted between himself and Alexander was as ardent as that which Patroclus had borne to Achilles."

The expression in this quotation, that Alexander crowned the tomb, does not convey the correct idea. He anointed and crowned the column erected on the summit of the mound or tomb, it being then and afterwards the custom among the Greeks to erect engraved columns on the summits of such mounds. Arrian mentions the fact of Alexander having anointed the column.

Plutarch, in his life of Alexander, says that "Demaratus, the Corinthian, though far advanced in years, was ambitious of going to see Alexander," who had then conquered Asia. "Accordingly he took the voyage, and when he beheld him he said : 'The Greeks fell short of a great pleasure who did not live to see Alexander upon the throne of Darius.' But he did not live to enjoy the king's friendship. He sickened and died soon after. The king, however, performed his obsequies in a most magnificent manner, and the army threw up for him a monument of earth of great extent and fourscore cubits high."

Arrian mentions that when Alexander prepared to leave India he ordered twelve altars to be erected, equal in height to so many fortified towers, but far exceeding them in bulk ; on these he offered sacrifices to the gods and gave them thanks for making him thus far victorious, and consecrated them as eternal monuments of his labors. These altars were probably built on the spur of the moment, and were huge mounds made either of earth or of stone as they far exceeded towers in bulk, and according to Diodorus were fifty cubits high.

The Scythians, who six hundred years before Christ occupied a vast territory north of the Euxine Sea, and extending from the Borysthenes or Dnieper to the Tonais or Don, buried their kings near the Borysthenes and erected huge mounds over them. In speaking of the burial of the Scythian kings, Herodotus says : "The sepulchres of the kings are in the district of the Gherri. As soon as a king dies a large trench of quadrangular form is sunk near where the Borysthenes begins to be navigable. When this has been done the body is inclosed in wax, after it has been thor-

oughly cleansed and the entrails taken out; before it is sewn up they fill it with anise, parsley-seed, bruised cypress, and various aromatics. They then place it in a carriage and remove it to another district, where similar honors are paid it as at the first place. After thus transporting the body through the different provinces of the kingdom, they came at last to the Gherri, who live in the remotest parts of Scythia, and among whom the sepulchres are. Here the corpse is placed upon a couch, around which, at different distances, daggers are fixed;* upon the whole are disposed pieces of wood covered with branches of willow. In some other part of this trench is put one of the deceased's concubines, whom they previously strangle, together with the baker, the cook, the groom, his most confidential servant, his horses, the choicest of his effects, and finally some golden goblets; to conclude all, they fill up the trench with earth, and seem to be emulous in their endeavors to raise as high a mound as possible."

DeHell, who, in 1838, visited the estate of Vassal, on the Dnieper, the ancient Borysthenes, thus speaks of the country: "It presents to view only a vast desert with numerous tumuli, salt lakes, and a few sheepfolds. These tumuli, from ten to fifteen yards high, are the only hills in the country, and appear to be the burial-places of its old masters, the Scythians. Several of them have been opened, and nothing found in them but some bones, copper coins of the kings of the Bosphorus, and coarse earthen utensils. Similar tombs in the Crimea have been found to contain objects of more value, both as regards material and workmanship. This difference is easily accounted for; the Milesian colonies that occupied part of the Crimea two thousand years ago spread a taste for opulence and the fine arts all through the peninsula; their tombs would therefore bear token of the degree of civilization they had reached. They had a regular government, princes, and all the elements and accessories of a kingdom; whilst the poor Scythians, divided into nomad tribes, led a rude life in the midst of the herds of cattle that constituted their sole wealth."

In the year 1836 Edmund Spencer visited the Crimea. He says: "We entered the Cimmerian Bosphorus. We were now in the centre of countries connected with some of the most brilliant periods in the history of the Greeks and Romans. These were the countries that formed the emporium of the commerce of Athens, which enriched her citizens and established her as a great

* An Indian tribe of the West performed this same ceremony of fixing—not daggers—but arrows around the tomb or grave of their deceased countrymen.

maritime power, and afterward witnessed some of the greatest triumphs of mighty Rome. Indeed, each side of the strait abounds with objects to interest the traveller, in the numerous ruins of its ancient cities, and in the surprising number and size of the sepulchral tumuli everywhere visible." He thus speaks of the Museum of Kertch and of some of the tumuli in its vicinity : " We then extended our promenade to the Museum, the collection of which has been considerably augmented since the opening of a tumulus in 1830, called by the Tartars Allyn Obo, or the hill of gold, pretended to be the tomb of Mithridates. The immense quantity of bronze gilt vases, gold ornaments, and trinkets then found, fully justifies the appellation ; they were all of the most exquisite workmanship. The Museum contains, in addition, a very choice collection of statues, vases, and medals, the whole found in the environs, and unquestionably of Grecian workmanship.

" The acquisition of these treasures generated the desire to open another of these tumuli ; and the authorities of Kertch selected one whose dimensions were similar to those of Allyn Obo, that is about thirty feet high, and employed a number of men for several weeks in its excavation. After much labor and a useless search, they at length came to an enormous slab. The work of raising the ponderous slab, which had been placed over the tomb in the form of a cross, slowly proceeded, and when, after much labor, the massive stone was removed, we beheld a square trough of cut stone, with a wooden box in the centre containing a bronze urn, gilt, of the most graceful form and elaborate workmanship. The whole was carried to Kertch, a few leagues distant, but when opened, was found to enclose no other treasure than the ashes of him who had been there interred. These remains, perhaps of a prince or hero, I afterwards saw carried out by a servant and thrown upon a dunghill !

" The tumuli of these countries are exceedingly interesting ; the prodigious size and immense numbers we find, both here and in the adjoining island of Tamana, incontestibly prove that it was a country once occupied by a great and powerful people. That they were opulent, the variety of gold ornaments, beautiful vases, exquisite statues, and sculptured tombs found in the neighborhood sufficiently shows. With regard to the origin of the existence of these mounds, if we may depend upon the traditionaly accounts of the descendants of the aboriginal inhabitants, some of whom are still to be found in the mountainous districts of the Crimea, these tumuli were voluntarily erected by the people ; as when any

of their great warriors or kings expired, his ashes were placed in the tomb, and every man who admired his virtues carried a portion of earth and threw it over his grave.

"Be this as it may, they certainly have not been formed of earth excavated in the vicinity, which is always perfectly level, and some geologists go so far as to say that the earth of which they are composed is different in its nature from that on which it stands.

"However, the idea of a mountain tomb being formed as a tribute of the voluntary admiration of an entire people for a chief whose loss they deplore, is beautiful and affecting. The tradition of the Tartars is not, however, without some foundation in truth, for the cairns of the Scots were erected in a similar manner, and in the north of Scotland an expression of friendship and affection still remains among the people, to this effect: 'I will cast a stone upon thy cairn.'"

C H A P T E R I V.

The Miletian and Heraklian Settlements in the Crimea—The Tumuli near the Theodocian Gate at Kertch—Their Contents—A Particular Description of Two Great Tumuli near Kertch, and of their Contents.

The Miletians (Ionians) and Heraklians (Dorians), in the seventh century before Christ, planted colonies in the Crimea. The origin of the city of Miletus in Caria, is within the period of the first Greek emigration from home. The place was first settled by natives of the country, to whom came Sarpedon of Miletus, in Crete, and after him Neleus, from Attica. Miletus was already large and flourishing when the cities of the parent country were just beginning to emerge from obscurity. It was already a powerful city when the Lydian monarchs rose into consequence. Almost all the Greek cities along the coast of the Euxine Sea were of Miletian origin. Pliny makes them to have been eighty in number, and Seneca seventy-five.

Heraclea is a name given to more than forty towns in Europe, Asia, Africa, and the islands of the Mediterranean. They are supposed to have derived this appellation from the Greek name of Hercules, and to have either been built in honor of him or placed under his protection. The city of this name that settled colonies in the Crimea is Heraclea Pontica, on the coast of Bithynia, which was founded by a colony of Megarians, strengthened by some

Tanagreans from Boeotia. The number of the former, however, so predominated, that the city was in general considered as Doric. It was famed for its naval power and its consequence among the Asiatic states.

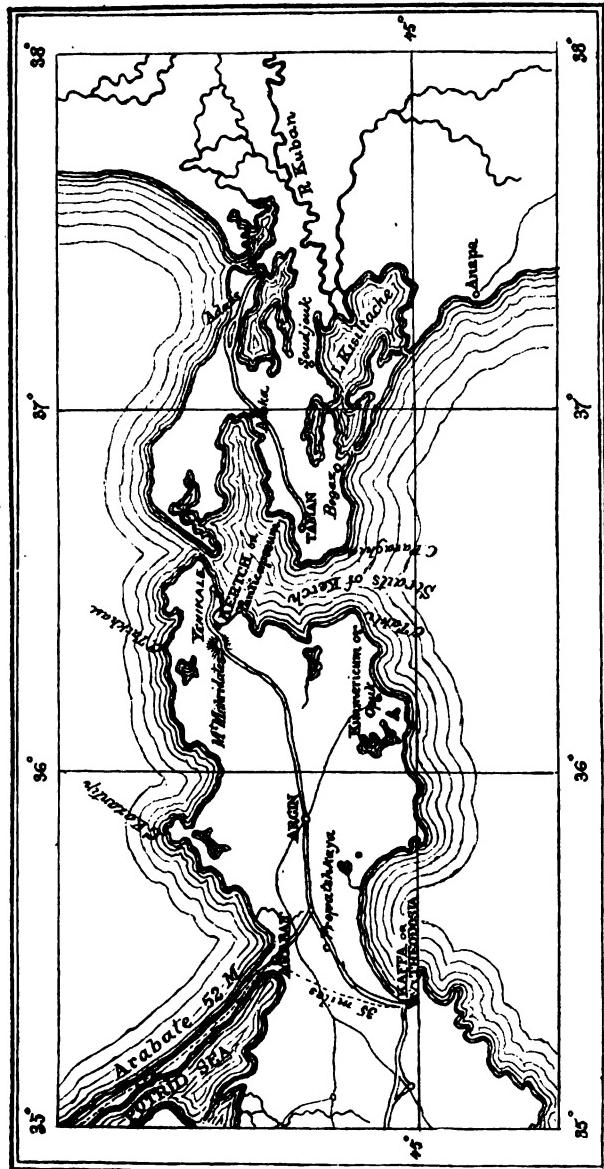
In travelling from Theodosia to the Cimmerian Bosphorus, the traveller on reaching Sustanofka, the third station, seventy-seven versts from Theodosia, for the first time sees the horizon crowned by the tumuli and coral-rag peaks which characterize the environs of Kertch. After the long journey over an uninterrupted steppe slight undulations appear above the horizon, in approaching the Cimmerian Bosphorus, and shortly after this appearance the traveller finds himself in a principal necropolis of the ancient Miletian city. Immense cones of earth rise on each side of the road, and ridges of coral-rag lying among these sepulchral monuments give a grand aspect to this singular field of death. On arriving at the end of the plateau, the view extends over the whole Bosphorus. On an evening in summer the last rays of the setting sun tint the cliffs on the Asiatic side. The outlines of the tumuli of Phanagoria become distinctly traced on the blue sky, and the shadow of Cape Akbouroun stretches over the water [1].*

Descending the plateau, the traveller enters the town of Kertch. The straits on which it stands, leading from the Black Sea to the Sea of Azof, and separating Europe from Asia, are about eight miles wide. It is now the chief town of a little government comprising Yenicaleh, a few miles distant, and about thirteen thousand acres of land, which form the eastern point of the peninsula. Kertch, like all Greek colonies, is charmingly situated [2]. A hill, called the arm-chair of Mithridates, rises at a short distance from the shore and gently slopes down to the sea. Around this hill was originally built the old Greek town, and on its sides were once clustered a variety of Greek temples, crowned on the top by the acropolis, which in Greek cities was nothing more than the walls surrounding the sacred spot in which was placed the tutelary deity, upon the safe custody of which the security of the town was supposed to depend.†

The interior of the acropolis, which was two hundred yards square, allowed plenty of room for the erection of two sanctuaries, one to Cybele and the other to Ceres, and still left space for the lodgings of the priests and the garrison and for the palace of Mithridates the Great, who came here to die. The acropolis of Athens

* The numbers in brackets refer to plates.

† It is singular how certain superstitious ideas are transmitted from one generation to another through ages, and from one religion to another.



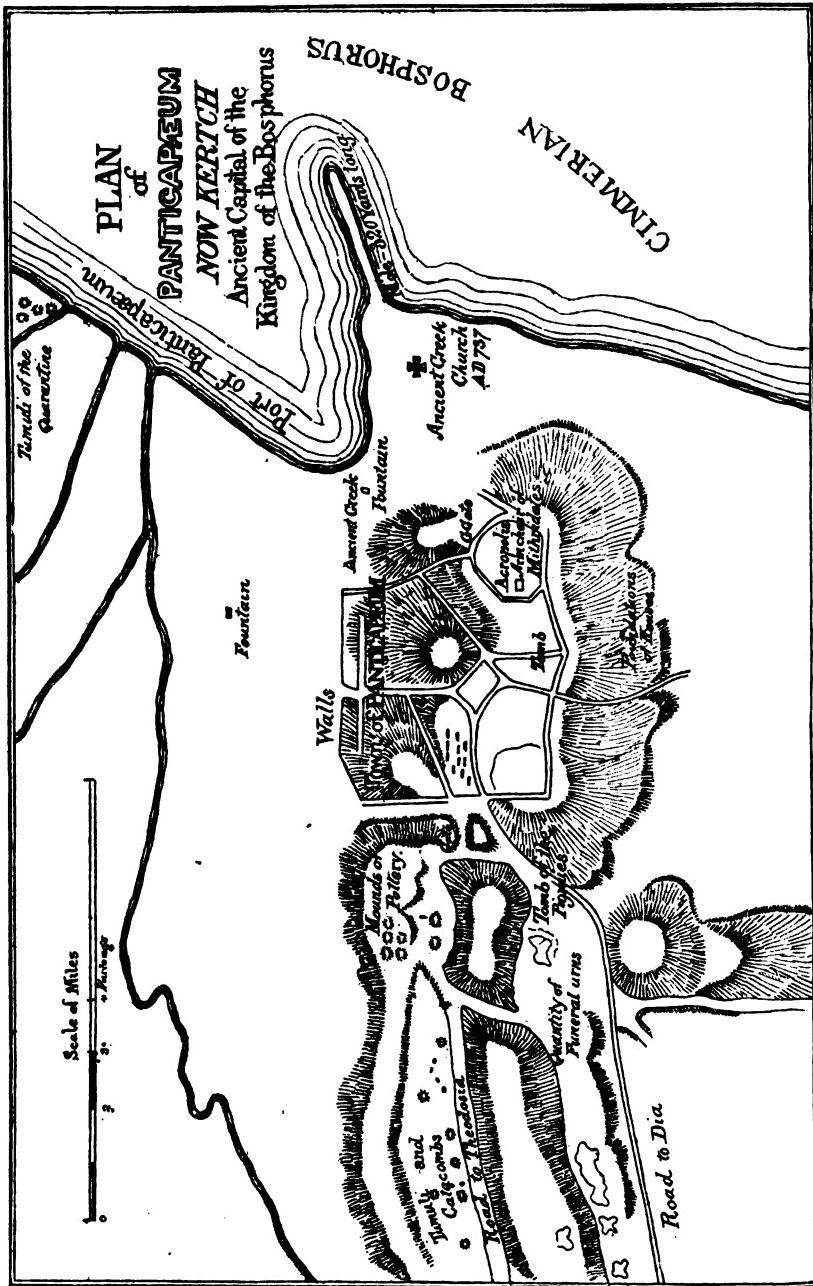
PENINSULA OF KERTCH.

**PLAN
of
PANTICAPTEUM**

NOW KERTCH
Ancient Capital of the
Kingdom of the Bosporus

A geological map showing the Port of Brumизатор area. The map includes labels for "Port of Brumизатор", "Ancient Kingdom", "Ancient No", "PAN", "Brumизаторум", and "Tomb of the Queen". A compass rose indicates cardinal directions.

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had not more available room than that of Panticapœum. The plateau of the hill enclosed in the walls of the town was also ornamented with palaces, and perhaps temples. The inscriptions and medals of Panticapœum show that there was the worship of several other divinities besides Cybele and Ceres.*

The ancient name of Kertch was Panticapœum, and it was one of the many Miletian colonies founded on the Black Sea in the seventh century before Christ. In its palmiest days the territory extended as far north as the Tanais, while to the west it was bounded on the inland side by the mountains of Theodocia. This fertile and narrow region was the granary of Greece, especially of Athens. Although there are no fine buildings, or even fragments, left standing, heaps of brick and pottery and the foundations of buildings encumber the soil for a considerable distance round the Hill of Mithridates, and show how great was the extent of the ancient city.

The acropolis occupied the summit of the Hill of Mithridates, in shape an irregular polygon, and the ditches and some parts of the walls, of coarse limestone of Kertch, may still be traced. It is probable that in very early times the bay advanced much farther into the land, and that the Hill of Panticapœum was bounded on three sides by the sea. In the midst of the immense ruins which cover the surrounding country may be traced the principal streets, which ended at the gates of the town. The base of the peak is hidden under a mass of ruins, and the whole rock has been carefully hewn.

There are no signs of aqueducts in the acropolis, but the lower town was probably supplied with water from two springs at the bottom of the valley, which now furnish the two principal fountains of Kertch. One is within the old fortifications, and has been repaired by the Turks with the fragments of ancient marbles, on one of which is an inscription showing it to have belonged to a monument of Sauromates III, raised to his father, Mithridates Eupator (162 A.D.)†

The principal gate of the town was turned towards the interior of the peninsula in the centre of the western wall. It led to Nymphæum and Theodosia, and the place is easily recognized by the interruption of the deep ditch which ran along it. About 240 yards from the gate the road which led to Theodosia reached an

* Excavations made at the foot of the rock discovered a fine torso, in white marble, of a colossal statue of Cybele—the same as Astarte or the Eastern Venus.

† Mithridates Eupator, Mithridates the Great, born 131 or 132 B.C., died 63 B.C., reigned fifty-seven years.

allée of tumuli, ranged several rows deep on each side in an irregular manner, and continued two-thirds of a mile. This long series of tombs seems to date in a great measure from the foundation of the town of the Miletians. At a later period the dwelling of the dead became more extended, and occupied the range of hills in continuation of Mount Mithridates for six or seven miles in length, and here are found the tombs of the kings. Tumuli are also found on the other side of the low plain to the north, where they form three grand groups, the best known of which is near the modern quarantine. The gate to the north of the Theodosia gate led to the Greek city of Dia, near Kamish-batoun, and the road crossed the hill through a gentle dip. Along it were the tombs of the poor people, who buried their urns and cinders around the coral-rag peak, two hundred and forty-five feet above the level of the bay.

Afterwards, as the bay became filled up, the population descended and left the site of the old town, until, in the fourth century, soon after Kertch became converted to Christianity, its kings disappeared, and barbarous hordes destroyed all the cities of the Bosphorus. The Panticapæum of the Eastern empire was a decayed and unimportant town.

As soon as there was space enough on the sea-shore the inhabitants fortified themselves there; and the Miletian acropolis, with its temples and palaces, has ever since served as a cemetery. By excavations to the depth of eight or ten feet were found broken Etruscan pottery, fragments of marble, and building-stones with inscriptions. In the midst of this new soil were a number of tombs irregularly placed, one on the other, containing stone coffins, made of thin layers of Kertch limestone, filled simply with bones, which proved them to be Christians.

The Greeks never allowed the dead to be placed near the Temple of the Gods, as their contact was considered pollution.

"The enormous quantity of tumuli around Kertch (Panticapæum) forms one of the distinguishing features of the place. Many of them have been opened, and unfortunately without sufficient care. The tumuli on the shores of the Bosphorus are essentially Miletian. This is also remarkable on the Asiatic side, where the towns of Sindes have no monuments of this kind, while Phanagoria, Kepos, Kimmericum, which are known Miletian colonies, are surrounded by them. The same is the case on the European shore, where Panticapæum, Myrmekium, Porthmium, Nymphæum, Miletian towns, are distinguished from a distance by the multitude of their tumuli, while the other Kimmericum, now Opouk, and Kherson, colonies of Heraclea, and consequently Dorian, have

none. The same is the case with the towns of the Tauri, except the residence of Skilouros, near Simpheropol, which has a few tumuli near its walls. It would be curious to inquire what is the reason of the tumulus being peculiar to the Ionic race."

The group of tumuli near the Theodosia gate are the most ancient, as is proven by the nature of the objects found in them, and by their worn appearance.* The tumuli near the quarantine are clearly less ancient than those on the road to Theodosia. They are less worn by time, of more colossal dimensions, and their interior construction and the objects contained in them show a more advanced state of civilization. These tumuli were also crossed by a public road, which branched off on the right to Myrmekium and on the left to Porthmum. The greater number contain vaults built of masonry, instead of excavations in the limestone, and their floor is on the same level as the ground outside. The arch of the ceiling is formed by each row of stones projecting more than the one below, until they almost touch at the top, and there are several tombs in the same tumulus. On cutting through one, on the new road to Yenicaleh,† three tombs were found. The two first were those of men, as was proven by two swords and a lance which were found in them, and in the third was the skeleton of a woman crowned with leaves of golden laurel.

There were also the following golden ornaments: Ear-rings two inches long. A large *bulla*, like the fastening of a bell, with a head of Mercury upon it. Many plates of gold which had fallen from the dress, now disappeared, on which were embossed vine-leaves and bunches of grapes. There were two rings, one very massive, with a stone having a head upon it, and the other with a stone cut into the shape of a lion couchant, and there was another representing two owls. By the side of the body was a gold coin of Philip of Macedon.

* Blarenberg excavated four of them in 1824, which had not been previously opened. The head was generally surrounded by leaves of beaten gold, of which it was the custom to make a crown. Among the articles found in one tomb are: A bust of Isis in terra-cotta, a fragment of Serapis in plaster, a fragment of a large necklace in carbonate of silver, finished by two heads of lions; two medals in bronze of King Eumeles (died B.C. 304), having on one side a head of Apollo and on the reverse a Priapus before a branch of myrtle; a pair of golden bracelets, beautifully worked; two golden ear-rings, with small cupids, ornamented with precious stones; two golden rings, with convex green stones; a golden ring, with an engraved stone of Minerva, very fine; a golden pin, with a stone on which is a butterfly; a silver pin, with an engraved stone, with a head; four chalcedony ear-drops, and some leaves in beaten gold.

† Yenicaleh is at the point of the peninsula, about seven miles northeast of Kertch.

At the same time another discovery was made by chance. By the side of the third tomb a fourth was found, in which were two large Etruscan vases, and one amphora about the head of the dead, who was crowned with leaves of golden laurel; with it were two necklaces, a pair of precious ear-rings, and a coin, all of gold. It is interesting to find on the shores of the Cimmerian Bosphorus the same vases which in Italy are called Etruscan, from the place in which they were first found. They were soon known, however, not to be peculiar to Etruria; and Magna Græcia was discovered to be a still more prolific mine of them. Further researches established the fact that wherever Greece had carried her civilization and her colonies these vases were found, and that there was not a spot within these limits, even as far as the banks of the Kuban and the Sea of Azof, which did not possess this kind of pottery, manufactured on the spot.

The funeral vases, wide below, with narrow necks, nine to fifteen inches high, are found in the tombs, always with two handles, and two compositions painted on them, one on each side, differing both in execution and the style of the subject. On comparing them with those found in Italy, they will be seen to be precisely similar, even to the singular difference in the two compositions which ornament them. The one is always some scene in private or public life, and the design is elegant and the execution very careful. The other is a coarse sketch hastily done in a rough way, and an eternal repetition of the same personages, with some variation in the pose, the number of figures, and the emblems which accompany them.* The subjects chosen go to prove that they were manufactured at Panticapœum, for the *griffin*, which was the emblem of that city, constantly appears, and various details of the Scythian costume.

Three classes of tombs are still to be mentioned—those of the poor, the catacombs, and the tombs of the kings. On going out of the gate leading to Dia, along the mountain of Mithridates, there is an eminence which a gentleman began to excavate. His labors, however, seemed to end in the solid rock below a mass of amphoræ which contained the cinders of the poor. At last he remarked a sepulchral slab, and lifting it up, found the entrance to a funeral cave. This was built with an Egyptian roof, and had been despoiled of everything precious, but was still most interesting from a suit of small pictures, drawn on the wall below the commence-

* Some of the scenes relate to the mysteries of Ceres and the mysteries of Bacchus. The two have an intimate relation with each other, as they both come from the mysteries of Isis and Osiris.

ment of the roof, about a foot high, representing the war of the cranes and the pygmies.

The catacombs are among the tumuli on the road to Theodosia, and are deep excavations fifteen or twenty feet deep, seven or eight feet long, and two and a half feet broad, and, on descending and entering by an arched door, large subterranean chambers are found cut in the white calcareous clay, with niches all around for the bodies. Some remains of coffins are to be found, and the whole is probably a Christian work. The last group of tumuli to be mentioned are those of the kings, at what is called the Golden Mountain. After following the old road to Theodosia for two miles, Mount Mithridates is seen to offer a passage across it by a narrow valley. The mountain rises again directly, and continues in a northwest direction to the Sea of Azof. This continuation is called the Golden Mountain. An enormous tumulus, which rises above the road where it passes between the hills, seems to announce a more powerful race than that which raised the tombs of the plain. On the crest of the mountain, at three hundred and twenty-three feet above the level of the sea, rises the tumulus, in the form of a cone, one hundred feet high and one hundred and fifty in diameter, different from those in the neighborhood, because it is walled from top to bottom like a Cyclopean monument. It is cased on the exterior like the Pyramids, with large blocks of Kertch stone, cubes of three or four feet placed without cement or mortar. This monument, almost unique of its kind, from its size, was a tomb, and from all times had been the object of a number of mysterious legends. The Tartar, Turk, and more ancient traditions, spoke of immense treasures hidden in this tomb, which was known by the name of Altun Obo, or the Golden Mountain. The tradition existed that there was an entrance to the tomb, which the Tartars had often tried to find, without success. It was not until 1832 that Mr. Kareiche carefully sought for it, and employed thirty-five men for fifteen days in attacking the tumulus from the southwest. At last he had the good fortune to find the entrance to a gallery, by which he penetrated, without an obstacle, to the centre of the tumulus. The gallery was constructed of layers of worked stone, without cement, and was sixty feet long, ten feet high—taking in the Egyptian roof—and three or four feet broad. Arrived at the end, Kareiche found himself on the edge of a precipice which opened before him. He saw with astonishment that the centre of the tomb was formed of a circular tower twenty-five feet high and twenty feet in diameter. The floor of this construction was ten feet below the floor of the gallery, and the vaulted roof was composed of four rows of advancing stones.

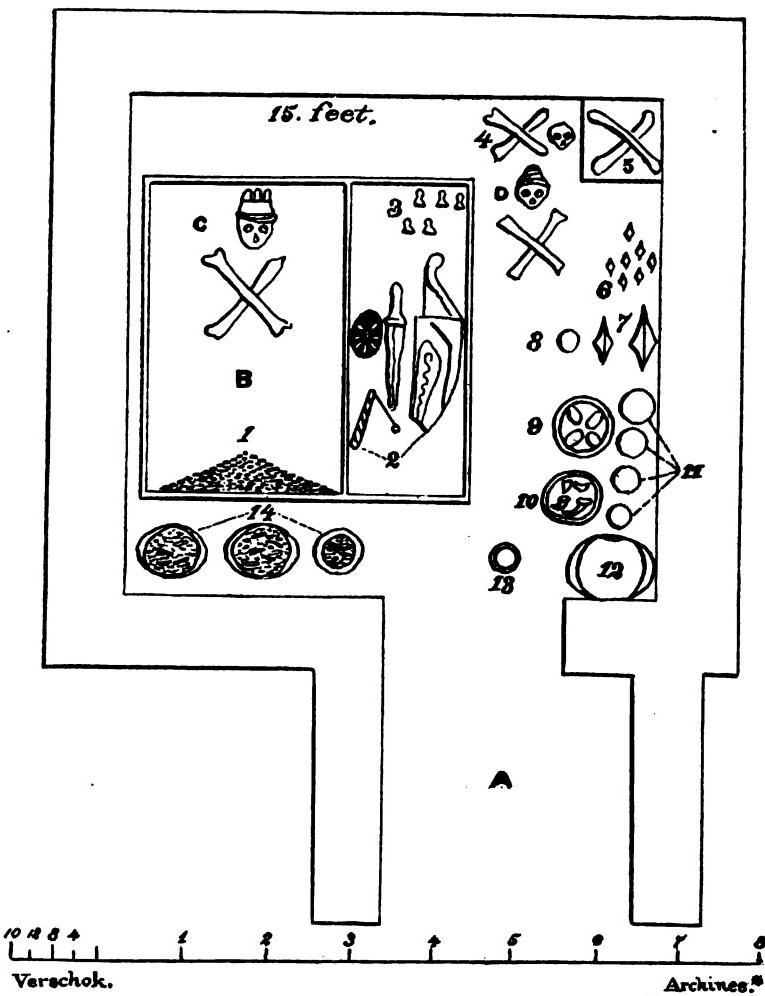
At length Kareiche saw that he could descend into the tomb by stones placed at distances in the side, and was hastening to reap the treasures promised in the legend, when to his stupefaction he perceived that the tomb was empty. On the ground was a large, square stone, on which a sarcophagus might have been deposited, and half-way up the wall was a large, empty niche. He searched in vain to penetrate further; nothing indicated any passage, and it is still an enigma. What was the object of this expensive and magnificent monument, the rival of the Pyramids? The distance between the tower and the exterior Cyclopean wall is filled with fragments of stone from the fine quarries in the neighborhood.*

The modern Greek legend makes this the tomb of Mithridates, although it is well known that he was buried at Sinope. This tomb is placed exactly at the spot where the two branches of the long rampart meet, which extends from the Black Sea to the Sea of Azof. It—the rampart—is visible extending from the foot of the tumulus to the gorge of Katerles, which opens in a second range of hills parallel to the Golden Mountain and Mount Mithridates, and the peaks above it are covered with ruins. To the south the rampart is quite effaced, where the road to Theodosia crosses it, but beyond it its zigzags are seen as far as the White Cape, where it of course terminates.

This rampart was probably the ancient boundary of the territory of Panticapœum, and the primitive kingdom of the Bosphorus before the conquest of Nymphaeum and Theodosia, which were added to the kingdom, the first in 410 B.C., and the second about 390 B.C.

Within the ramparts, at one hundred and fifty paces to the east, near Kertch, there is another monument of the same kind as the other, but unfinished. It consists of a circular esplanade five hundred paces around and one hundred and sixty-six in diameter, with an exterior covering of Cyclopean masonry, built of worked stone, three feet long and high. There are five layers of these, but it seems to have been the intention of the builders to raise a monument like the one before mentioned. Perhaps a revolution, or the death of the prince who was building his own monument, like the kings of Egypt, caused the work to be abandoned. Several ranges of enormous stones between this and the first monument indicate ancient walls of houses, and adjoining these are traces of ancient gardens, while on the slope of the

* Spencer, in his "Travels in Circassia, Krim Tartary," etc., in 1832, says the tumulus called by the Tartars Altyn Obo, or the Hill of Gold, pretended to have been the tomb of Mithridates, was opened in 1830.



INTERIOR OF ROYAL TOMB OF KOULOBIA, NEAR KERTCH.†

- | | |
|---|---|
| A. Vestibule. | G. Hundreds of arrowheads. |
| B. Tomb of King. | H. Two large lances. |
| C. Bones of the King. | I. Queen's golden vase. |
| D. Bones of the Queen. | J. Crater in silver. |
| E. Heaps of sharp flints. | K. Second crater. |
| F. Arms and whip of King. | L. Amphorae, containing wine of Thessaly. |
| 1. Five statuettes in electrum. | M. Bronze vase. |
| 2. Attendant of King. | N. Silver gilt plate. |
| 3. Bones of a horse, with greaves and helmet. | 14. Bronze saucepans, with mutton bones. |

* 1 archine = 28 inches.

† From Dubois' Atlas.

mountain, in the midst of the ruins, near Khouter Scassi, there is a fine well in good preservation, cased with wrought stone and full of water. This seems extraordinary in the midst of a country now so dry, desert, and devoid of wood, but proves that in the time of Panticapæum the general aspect of the land was very different, since country-houses and trees existed where there are now only wild rocks.

The view from the summit of the hill, and still more so from the top of the tumulus, is magnificent, and extends as far as the rock of Opouk, the ancient Kimmericum, which is twenty-four miles distant.

There is a spur of the Golden Mountain running south, called by the Tatars Kouloba,* or the hill of cinders, beyond the ancient rampart, and four miles from Kertch. Near it is a tumulus one hundred and sixty-five feet in diameter, and some soldiers, carrying away stones from it, discovered an interior construction [3]. They soon arrived at a vestibule six feet square, turned to the north, covered by an Egyptian roof of three rows of stones, which they were obliged to remove in order to penetrate further, because this roof was supported by beams reduced to dust. At the end of the vestibule was a door eight feet ten inches high and five feet nine inches wide, closed half-way up by large wrought stones, and above by those of the common size. Large pieces of wood formed the covering, but the beams were reduced to dust and the stones which closed the entrance supported the upper part, which threatened soon to fall. This difficulty was soon removed, and two *savans*, Mr. Dubrux and Dr. Lang, were commissioned by the Governor to enter alone and take an inventory of the contents. An immense crowd besieged the approaches, which were guarded by soldiers, while the commissioners entered.

The tomb was almost square, measuring fifteen feet from east to west and fourteen feet from north to south, and the entrance-door was not in the centre of the wall. The walls were built of hewn stone, each three feet long and two feet high. Five rows of stones raised it to seven feet eight inches, and then began the spring of the Egyptian arch, formed of seven rows of advancing stones, the front row advancing five inches and the upper rows six or eight inches, so that at the top there only remained a space two feet square, filled by a single stone. The tomb was thus sixteen feet high. At ten feet ten inches above the pavement began the wooden ceiling, which had fallen when the beams which sup-

* "Dubois," vol. v., pp. 194-288.

ported it gave way. The floor had a stone pavement, and the principal place was occupied by a sarcophagus formed of a case of yew wood eight feet nine inches long and ten inches high, and was joined by thick beams, in which the outward planks were fitted. The side facing the interior of the tomb was open, and the interior was divided into two parts by a plank. In one of the compartments, larger than the other, and nearer to the wall, was extended the body (skeleton) of a man of great stature. The thigh-bone was seventeen and one-half inches long, and the skull extremely thick. On his brow were the remains of a *mitra*, or Persian cap, of which the top is narrower than the base. Two plates of gold ornamented the top and the bottom; the one below was one and a half inches broad, ornamented with festoons and griffins, the emblem of Panticapœum, and was of less careful workmanship than the upper plate, ornamented with figures, leaves and arabesques. Around the neck was a grand necklace in massive gold, of beautiful workmanship, in the form of an open ring and twisted like a cord, with the extremities passing one over the other. At each end was a Scythian on horseback, and the extremities were for a distance of two inches enameled with blue and green. Similar ones have frequently been found of copper, and rarely of any other metal, in the tombs of the north, and, among others, in those of the ancient Lithuanians. The arms were extended on each side of the body, and on the right arm above the elbow was a circle or bracelet in gold an inch broad, and adorned with reliefs. Below the elbows were two other bracelets in electrum,* one and a half inches broad. A third pair of open bracelets in fine gold encircled the wrists and finished in Persian winged sphinxes, the claws of which held the thick thread of gold which served to close the bracelet when it was passed over the wrist. The workmanship was very fine, and their thickness about half an inch. At the feet of the king were a multitude of little sharp flints piled up. In Scythian mourning it was customary to tear the face and the rest of the body with such instruments, and they were then placed in the tombs as a mark of grief; some bodies found in a tumulus near Simpheropol were covered with them. In the narrower compartment of the sarcophagus were placed the gods and arms of the king. First there was his iron sword, the handle of which, covered with leaves of gold, was adorned with figures of hares and foxes embossed on the gold. Beside the sword lay the Tcherkess or Cos-

* A mixture of gold and silver.

sack whip (called *nogaik*) adorned with a leaf of gold, and above it was the shield in fine gold. The thickness of the latter was about that of a five-franc piece, and its shape showed that it was principally a protection for the shoulder, and fitted to the arm. It was eight and a half inches long and seven and a half broad, and its weight was one and a half pounds of fine gold. The *umbo* or centre of the shield was surrounded by a simple circular fillet, and one with the egg pattern, leaving an interval of three and a half lines, in which were chiselled dolphins and other fishes. The rest of the shield was divided into twelve compartments by a fillet, and was covered with masques imitating the head of Medusa, alternating with faces with pointed beards, and flies and heads of sea-horses.

The bow and its wooden case were reduced to dust, and there remained only the plate in *electrum* which ornamented the quiver. It was adorned with embossed work representing a wild goat seized by a tiger, and a deer attacked in front by the griffin of Panticapœum, and behind by the lion of Phanagoria. The deer was the emblem of the town of Diana, which was Kherson. A sea-horse filled the under-part of the plate, and a mask the other extremity. Above the tail of the tiger was written the Greek word *ΠΟΡΝΑΧΟ*, engraved on the metal. Some suppose this to mean Pharnaces, the son of Mithridates, whose tomb this may be, but Dubois considers it the name of the artist, which, under the more recent form, *ΦΑΡΝΑΚΟΓ*, frequently recurs in the inscriptions of Sindika, now Anapa.

Among these arms was found one boot in bronze, and its fellow was on the right of the king, opposite the head. In the same compartment and near the head of the king were found, in the exterior angle, five statuettes in *electrum*. One figure represented two Scythians embracing one another and tightly holding a horn, probably filled with hydromel. The horn is like those which all the statues, or *babas*, so often found in one part of Southern Russia, hold with both hands. Another figure holds a purse in his right hand and a strange instrument in his left, and is like a Celtic Mercury. There was also the Scythian Hercules among these divinities. Their costume recalled the Slavonic and Tatar dress, and particularly the tunic of sheepskin, which the Tatars call *toun* or *teretoun*, the Russians *touloup*, which was the Scythian garment found in the most ancient monuments. The fleece is turned inwards, or is only edged with fur, and it is found of all lengths, from the short Tatar tunic and the Slavonic *kalskaveika* to the long sheepskin gown of the Russian peasant. These different

kinds are all visible in the different dresses of the figures of this tomb, where may be recognized the real Lithuanian *sermedje* and the Tcherkess *tchok*.

Thus was arranged the sarcophagus of the king, and around it, on the pavement, were the objects which completed the furniture of the tomb, in which nothing had been forgotten which could contribute to the material needs of life. At his feet a kind friend had placed three large cauldrons of molten bronze. Two were oval or oblong and one was spherical, and all reposed on a cylindrical foot, of which the base spread out into three hooks, to fix it on the soil. These three vases had been often on the fire and used for cooking; there was a thick coat of soot still on them, and the interior was filled with mutton-bones.

There was another oblong vase near the door, filled in the same manner. After the kitchen of the king came his provision of wine and his drinking-cups. The wine was contained in four amphoræ placed upright against the wall on the right. On the handle of one was inscribed *ΘΑΣΙ* and below *ΑΡΕΤΟΝ*, and in the midst was a fish. These, then, were filled with wine of Thasos, which, to judge by the quantity of amphoræ found in the tombs bearing this name, was the favorite wine. Two large *cratere*s were naturally placed near the amphoræ, because the Scythians always drank wine mixed with water. The first, the nearest to the door, was of silver, nearly eighteen inches in diameter, and contained four drinking-cups in silver, two of which were of beautiful workmanship, particularly the one which terminated below in the head of a ram. The second *cratere*, in bronze, contained also four silver drinking-cups, the largest of which is ornamented with chiseled work gilt, on which may be recognized the birds and fishes of the Black Sea and the Cimmerian Bosphorus. On the right is a duck plunging and seizing a fish, and under it swims a *labra* and a sturgeon; and further on a cormorant, with extended wings, is seizing, while flying, a small fish. On another is a combat of a wild boar about to yield under the claws of a lion.

On the right is a *toura** of the Caucasus, brought to the ground by two griffins of Panticapœum. On the left the deer of Kherson suffers the same fate, being torn by a lion, while a female leopard, with open mouth, is about to seize it by the throat. In the part which the wild boar, the deer and the toura play in the midst of

* "The *toura* is an animal in the Caucasus, like a *wild bull*, with enormous horns and very thick skull, as it throws itself down precipices on its head. It is the famous game of the Mingrelians and Ossete princes."

Singular that this *bull* should so much resemble a Rocky Mountain *sheep*.

griffins and lions there is a manifest design. The lion of Phanagoria and the griffin of Panticapœum are not always represented as victorious without intention, while the deer of Kherson, the toura of the Caucasus and the wild boar of the Kuban are always vanquished by them.

Beyond the drinking-cups were two lances and several bundles of arrows laid along the wall. The last had triangular points in bronze, with three barbs, and are similar to those found in Scythian monuments in Southern Russia. Between the arrows and the sarcophagus there appeared a second skeleton, laid on the pavement and much covered with earth, but adorned so richly that it was impossible not to recognize the wife of the king, who thus accompanied him to his last resting-place. She was laid in the same direction as the king, and wore on her forehead a mitre as he, with a plate in electrum terminating it, which showed a skilful workman. Four women in Greek costume sit in the midst of garlands of *lotuses*, the stalks of which form seats and backs. Four masks of lions formed on each side the means by which the plate was attached to the mitre. On the bottom the mitre was bordered by a diadem of gold adorned all round with small enamelled rosettes. She bore on her neck, like the king, a grand necklace with the ends movable, and, instead of horsemen, the extremities were formed of couchant lions. She had on, besides, another necklace of gold filigree, to which were suspended small chains supporting small bottles of fine gold. Five medallions of exquisite workmanship and different sizes descended on her bosom, and they were fastened together by small chains and bottles. These were enamelled blue and green like other objects that have been mentioned. The two largest of the medallions represented Greek Minervas, but evidently worked at Panticapœum, because of the chiselled griffins on the wings of her helmet. The attributes of Minerva, besides the owl and the winged Pegasus, are the serpents of Medusa which ought to ornament her shield, a winged sphinx like that on the bracelets of the king, and a row of deer-heads on the visor of the helmet. The arabesque which surrounds the helmet is also enamelled [4].

At the foot of the skeleton was discovered a magnificent vase in *electrum*, resembling, in form and size, those of the second *cratere*, which stands on a foot. It probably contained perfumes, particularly as some of the little bottles, usually called *lachrymatories*, were found, as in the other tombs. The exquisite chisellings upon it are of the greatest interest for art and history. Four groups of figures succeed each other as episodes in the same history, in which

the personage playing the principal part reappears three times. In the first group, beginning from left to right, he is seated, the two hands and the head leaning on the lance, listening attentively to the report of a warrior. The king is known by the royal band around his head, perhaps the very one that is placed in the tomb. His costume is completely Scythian ; he has the narrow trousers, the boots, and the *tchok* which has been described. The warrior who makes the report is also a Scythian, kneeling before him, dressed as on the Etruscan vases, and armed with lance and buckler. Neither the one nor the other has the warlike quiver. Their hair is long and spread over their shoulders, but the bearer of the dispatch has no diadem ; he wears only the *bachelik* of the Caucasus, or the Phrygian bonnet—or, rather, the Lithuanian bonnet—which has for many centuries remained the same. The next figure, with its back to the messenger and kneeling on one knee, is much occupied in bending a bow, which may be that of the king ; for this warrior has his own by his side. They are preparing for war. This war then takes place; and next are depicted the fruits of it, for the king has been badly wounded. He is recognized in the half-sitting, half-kneeling figure, from whom the Scythian *magus* is extracting a tooth from the left side of the jaw. On examining the skull of the king deposited in the museum it may be seen that the lower jaw presents the marks of a wound, with a fracture which has carried away several teeth ; for the two large teeth are wanting, and a third, shorter than the others, has been attacked by a disease which has made the jaw swell.

A fourth episode represents the king wounded in the leg ; a warrior is fomenting it with bandages. In this place the trousers and a part of the *tchok* is covered with something that looks like embroidery. These are the little golden and electrum scales sewed on the garments. Strabo says that the Aorses on the banks of the Tanais wear gold on their garments.* These little scales are embossed, pierced with holes at the sides to sew them on, and represent an infinity of subjects. This tomb furnishes some very rich examples of them.

On attentively examining the interior when it was first opened, it was perceived that at the foot of the walls were heaped up an infinity of these little plates. The walls showed signs of having had pegs of wood fixed in them, to which were suspended the rich wardrobes of these great personages. The clothes had fallen, and nothing was found but a mass of dust, mixed with these little

* "Strabo," lib. xi., p. 486.

plates, which were carefully collected. The greater number were in the form of triangles or roses of different sizes, without any relief; on others were fine heads of women or divinities, and figures of griffins, lions, hares, foxes and other animals. One of them, with the figure of a woman upon it, proves that if the men of that period wore the Caucasian dress, the same was the case with the women, whose long veil or *tchadra* seems just the same as that which the Caucasian women still wear. The robe is flowing. One of the women bears in her hand a goblet, and in the other a key. Another little plate represents two Scythian archers back to back, ready to shoot their arrows. Two others represent Scythian hunters on horseback, pursuing a hare. In the left hand they hold the reins and in the right the javelin.

By the side of the queen were found two golden bracelets, with bas-reliefs in two ranges; that is to say, six figures in each bracelet, the breadth of which is three and a half inches. Around the head were disposed six knives, with handles of ivory,* the blades of which were like surgical instruments. A seventh knife had a handle of gold and reliefs upon it. A bronze mirror with a handle of gold, ornamented with a griffin pursuing a deer in relief, was also one of the objects which surrounded the queen.

According to the Scythian customs the queen must have been strangled before being placed in the tomb of her husband, and the same cruel laws required the presence of the king's servant. He was found, accordingly, stretched across the tomb, along the southern wall, and around him were many plates of gold. His helmet and greaves, in silver, very much oxidized, were laid, with the bones of a horse, in an excavation two feet square, which occupied the southeast corner of the tomb. Among the things that were taken out of the cavern were several highly-worked pieces of wood which belonged to musical instruments, the only thing wanting to complete the whole establishment. Several of the pieces showed designs, executed with an engraver's point, of exquisite workmanship. These were a chariot, a woman holding a helmet in her hand, a slave with a large bowl giving drink to a horse, some women seated, and other designs.

If all the objects which adorned the inside of the tomb bear the stamp of Scythian ideas and the customs and usages of that nation, the same cannot be said of the ornaments and pictures of the sarcophagus of yew wood, which presents in perfect preservation paintings on wood which have resisted upwards of twenty centu-

* Ivory would seem to indicate an intercourse with India or Africa.

ries. These paintings covered the panels of the sarcophagus. The principal subject is entirely Greek, and proves that if they buried a king surrounded by Scythian luxury, Greek artists were employed at his interment. Two Victories, mounted on chariots, turned one against the other, filled the extremity of the picture, of which seven Greek figures, in different positions, occupied the centre, three women and four men. A goose and a swan are mixed with these figures, all represented as very agitated, running, gesticulating, with expressions of joy, which is justified by the approach of the two triumphal cars. The chariots are drawn by four white horses, two of which are spotted. On the frieze which surrounded the panel above, the artist has represented warriors drawing the bow.

When the tomb was opened the savans deputed for the purpose were busy in making a plan and putting down the position of each object which they found. This occupied the whole day, while two soldiers guarded the entrance. These gentlemen in the evening thought their work was finished, but, for greater protection, the sentinels kept at their post, with orders to let no one pass. The crowd which visited the tomb during the night from curiosity was so great that the sentinels could not keep it back. The people penetrated into the tomb, examined everything, and then were discovered the little plates of gold which covered the pavement.

While they were thus examining and disputing about the smallest spoils, some person perceived that the tomb resounded as if there was something hollow underneath. Raising the stones of the hollow square in the corner, they discovered a second tomb below, much richer than the first, and from this the masses of gold were drawn which for several years afterward were in circulation in Kertch. There was not a Greek woman there who did not retain some relic of this great discovery, especially in the form of ear-rings. It was said that no less than one hundred and twenty pounds weight of gold jewelry were extracted from these tombs, of which the Government obtained about fifteen pounds, and the rest was dispersed. In this pillage the people acted in the most barbarous manner; they tore the objects from one another, and chopped up the most precious with the hatchet. Such was the fate of the golden shield of the lower tomb, part of which the Government bought back, piece by piece, for the weight in gold. On one of the pieces recovered there was a Greek woman like a Fury, with her long hair blown by the tempest, bearing in her hands a lance and torch; wolves, of which one carries a *labrus* in its mouth, surround her, and complete the picture of this ter-

rible divinity. The tomb is probably anterior in date to the reign of Mithridates, both from the style of the ornaments and various minor circumstances. The letter *P* (P) is often repeated on the reliefs, and is written with one side shorter than the other, a form which quite disappears before the time of Mithridates the Great. It is so written on the great vase in electrum, which is of extraordinary enigmatical shape, representing a deer lying down, while on its sides are chiselled a griffin, a ram like the one of Jupiter Ammon, a lion, and a dog turning his head, all of which appear on the most ancient medals of Panticapæum. Again, the two medallions of Minerva with her attributes, of exquisite workmanship, must have been made at a time when the kings of the Bosphorus were proud of their alliance with Athens and of being citizens of that city, as were Leucon, Pærisades I: and Eumeles. At a later period the connection ceased between the Bosphorus and Athens. There is, besides, no sign of the influence of Rome in any part of the tomb. Its construction is very ancient, and the idea of propping the ceiling with posts is not found in any more recent tombs.

The Scythian costume also was much in vogue under the Leucanides, as most of the figures on the vases wear it. We might, indeed, expect at that period to find the Scythian manners and costumes by the side of the Greek worship.

The value and abundance of the remains of antiquity found at Kertch naturally required a museum, which has been built by the Government on the Hill of Mithridates. It is an exact copy of the Temple of Theseus at Athens. When Dubois visited the museum, in 1832, there were three very curious skulls in it, with remarkably high foreheads, found in a very ancient tumulus near Yenicaleh, which probably belonged to the ancient Kimmerians. The only perfect skull had disappeared a few months afterwards, having been sold by the conservator for 100 francs to a stranger, who fortunately destined it for the museum at Munich, where it will be preserved.

The quarantine is about three miles distant from Kertch, and within its boundary are the ruins of Myrmekium, the highest part of which is on a promontory overlooking the sea. Here, to hoist a flag-staff, some sailors made a hole in the rock, and were surprised to find the mast suddenly run down a considerable distance. On examining the ground they found that there was a tomb underneath, which had, however, been opened, and nothing remained in it but a very fine sarcophagus ornamented with bas-reliefs, which had been dragged towards the entrance and then left mutilated.

Yenicaleh is at the point of the peninsula, about seven miles from Kertch. Two ranges of hills with coral-rag peaks cross the peninsula of Kertch and terminate at the Bosphorus—the one at Yenicaleh and the other a little higher up. Between them was formerly a bay, which is now a salt lake closed by a sand-bar. Higher up the valley, ranged in an amphitheatre, are many different kinds of springs, and the celebrated mud volcanoes.

At Cape Akbouroun, or the White Cape, there are two groups of tumuli. One group has seven tumuli of enormous size. The other extends along a ridge which joins the southern spur of the Golden Mountain. Near the last there is a high cliff, with a depression beyond it, which has the appearance of an immense theatre overlooking the sea. This was the site of the old quarantine. There is here a rich mine of phosphate of iron. Between the iron mine and a country-house at Akbouroun are the ruins of Dia, which occupied the extreme southern point of the entrance of the ancient gulf of Nymphaeum, now Lake Tchourbach.

The ancient town of Nymphaeum occupied exactly this southern point. On the angle between the ancient gulf and the Bosphorus was situated the town, built on a kind of platform. The rampart is easily traced, and the faubourgs were around the metropolis. There are large masses of ruins everywhere, and the soil is several feet deep in broken pottery, much of which is Etruscan. At about one-third of a mile from the town the tumuli begin, and encircle it in great numbers. The town was founded at the same time as Panticapaeum, and fell into the power of Pericles. It was betrayed into the power of the Bosphorians in 410 B.C. In the time of Mithridates it was still a strong place, where he lodged the greater part of his army which he destined for his grand expedition by the Danube and the Alps against the Romans. Nymphaeum in the time of Pliny existed only in name.

At thirty miles from Kertch, on the coast of the Black Sea, is Opouk, a Tartar village, at the extremity of a fine roadstead. Near here, at a short distance from the shore, are two rocky islands called Karavi, and by these the place is identified as the ancient Kimmericum. Like all the towns of the peninsula of Kertch it was almost deserted in the time of Strabo, 50 B.C. to 30 A.D., and at a later period was called Kibernicus. There is not a single tumulus to be seen, probably because Kimmericum was not a Miletian city. The Genoese are supposed to have carried away the remains of Kimmericum in order to build Kaffa.*

* "Russia on the Black Sea and Sea of Azof," by H. D. Seymour, M. P.

CHAPTER V.

The Plain of Urmia, near Tabrez, in Persia—Tumuli near the Village of Dgalu—A Temple of the Ghebers or Fire-worshippers on the West Coast of the Caspian, near Bakoo, in the Year 1824—Topes, Tepes or Tumuli Numerous in Afghanistan—The Word “Tepe”—Its General Use in Parts of Asia for Tumulus—The Turkoman Tepes or Tumuli—Turkoman Customs—Mounds on the Euphrates—The Mound of the Emperor Gordian.

DR. MORITZ WAGNER, who from February, 1842, spent three or four years travelling through Georgia, Persia and Koordistan, speaking of the country of the Kouban, a country between the Sea of Azof and the Caspian, north of the Circassian Mountains, and drained by the river Kouban, which empties into the Sea of Azof, says: “We continually noticed on these steppes solitary mounds, *i.e.*, rude conical mounds, which are ascribed to the Moguls, and probably extend from the shores of the Euxine to the Caspian Sea.”

Speaking of the plain of Urmia, near Tabrez, or Tauris, in Persia, he says: “The plain of Urmia is about 50 miles long, and 18 broad, and the eye embraces nearly its entire surface from Sier, nor have I ever seen a more careful cultivation of soil, a more judicious system of artificial irrigation, or a denser population. The vast area presents an endless series of villages, gardens and fields, as far as the eye can reach. The plain is not only intersected by minor cross-ridges, and broken by solitary elevations, but it presents a series of artificial mounds resembling the mohills of the Russian steppes, only more conspicuous and not of a conical shape. These mounds near Lake Urmia are covered with black earth, meadows and grass. When the earth is dug through there are discovered many earthen utensils, human skeletons and animal bones, broken pottery, copper and silver coins, mostly from the time of the Roman supremacy, and a few of the Persia era. We visited two or three mounds near the village Dgalu. I could trace at this place the vestiges of grand excavations, caverns a hundred paces in length,* where it was evident that search had been made for hidden treasures. The common result of such excavations is the discovery of some silver coins; and in the most unsatisfactory cases the earth ashes, which always occur and are very useful as manure, offer some compensation for the trouble of the excava-

* The inference is that the mound was a hundred or more paces in diameter, if the excavations were in a direct line.

tions. The natives give no other name to these artificial mounds than Tepe, and the current traditions refer them to Zoroaster, the Magi, and the Fire-worshippers."

It may not be amiss to mention here that in this same region there existed as late as the year 1824 a temple of the Ghebers or Fire-worshippers, on the west coast of the Caspian Sea, sixteen miles northeast of Bakoo, on the extremity of the peninsula of Abasharon; it was an inclosed square building having at each angle a hollow column, higher than the surrounding buildings, from the top of which issued a bright flame, which was probably sustained by the gas from the petroleum spring in the vicinity. There was a constant succession of pilgrims who came from different parts of India and relieved each other every two or three years in watching the holy flame, but the high priest remained during life.*

Lieutenant Wood, of the East India Navy, on his march from Khyber Pass to Dhaka on the Kabul River, in 1837, saw on the summit of a small hill one of those "*topes*" or mounds of masonry which are so numerous in Afghanistan, and he says: "These solid structures which have so long defied time, and which the apathy of the natives left undisturbed, have at last fallen before the enlightened curiosity of Europeans; and as the entire deposits of many, consisting of coins and relics, are already in the East India Company's Museum and other cabinets of the learned, we hope soon to hear that modern research has, by deciphering their inscriptions, dispelled all doubt of the purposes for which these singular piles were originally erected."†

In the year 1863 the Hungarian traveller, Arminius Vambery, went from Gomush-tepe encampment, on the east coast of the Caspian Sea, to Kiva. From Kara-tepe, on the west side, he had gained a view of the Caspian. Here I wish to call your attention to the word *tepe*, which has been mentioned in connection with the mounds on the plains of Troy, the mounds on the plain of Urmia on the hills of Afghanistan beyond the Hindu Kosh, and on the plains of Koordistan beyond the Caspian, and to Tepe Kirman, the name of a mountain in the Crimea. Kara-tepe signifies Black Hill. I know not what Gomush means, but its termination tepe expresses a hill or mountain. It is thus seen how extensive is the use of the word Tepe in the sense of hill, hillock, or mountain. But what is still more remarkable, this word Tepe is in many Mexi-

* Keppel.

† "Journey to the Sources of the Oxus," by Lieut. John Wood, E. I. Co., Navy.

can compound words, as Tehuan-tepec; Ometepec, the name of a district; Tepeaca, a town on a mountain plain; Cetlaltepec, the mountain Orizama; Chepultepec, Quiotepec, Popocatepec, etc. Tepe is also the name of a lofty, precipitous and narrow rock known as the Devil's Hill, situated in the vicinity of the Missouri River. It is also a name given by some of the western Indians to their tent, perhaps on account of its conical shape.

From the encampment of Gomush-tepe, the caravan in which Vambery travelled followed a path northeasterly, departing more and more from the sea-shore, in the direction of two great mounds, of which one bears the name Karesafi, and the other that of Alton-Tokmak. He says: "Besides these mounds are discovered, here and there, numerous *joszka* (Turcoman barrows); with these exceptions the district is one boundless flat. Scarcely a quarter of a league from Gomush-tepe we found ourselves proceeding through splendid meadows."

Speaking of the Turkoman customs, Vambery says: "When perishes a chief of distinction, one who has well earned the title of *bator* (valiant), it is the practice to throw up over his grave a *joszka* (large mound); to this every good Turkoman is bound to contribute at least seven shovelsful of earth, so that these elevations often have the circumference of sixty feet and a height of from twenty to thirty feet. In the great plains, these mounds are very conspicuous objects. The Turkoman knows them all by their names, that is to say, by the names of those that rest below. This custom existed among the ancient Huns, and is in use in Hungary even at the present day. In Kashan, Upper Hungary, a mound was raised a few years ago in memory of Count St. Szechenyi."

P. V. N. Myers, in his work, "Lost Empires," says: "Large artificial mounds are seen throughout Syria and Mesopotamia, twenty within the range of vision in Mesopotamia.

"From Akterin we journeyed for three days towards the Euphrates. For the first day the country was dotted with villages and artificial *tells*—mounds.

"From Aleppo to the Euphrates, five days' journey, the two days' march from Urfa, all round, the plain was dotted with artificial *tells*.

"The Assyrians, the Babylonians and Persians, erected their palaces upon lofty artificial terraces or platforms; the cyclopean masonry of the Persepolis platforms, which supported the palaces of the Persian kings, is to-day one of the marvels of the antiquarian world; the vast dimensions of the Babylonian mounds almost exceed belief. The mound of Kayunjik, that was crowned with

Ninivite palaces, equally astonishes the beholder by its gigantic proportions. From its enormous mass of bricks and earth could be constructed four pyramids equal to that of Cheops.

"At Samarah the Romans raised a huge tumulus over the remains of the Emperor Julian, which to this day stands on the banks of the river—Euphrates—amid the ruins of ancient cities." After descending the Euphrates, speaking of the *tell* at Samarah, Myers says: "Far over the plain to the north rose the artificial *tell* of Aligh, probably the ancient tumulus raised by the Roman army, A.D. 363, in commemoration of the burning of the body of their general, the Emperor Julian, who died here."

Ammianus Marcellinus, who bore a share in the campaigns which Julian made against the Persians, wrote a history of his times, and lived nearly to the end of the fourth century. In his history he says: "Procopius was sent forward with the remains of Julian to bury them in the suburbs of Tarsus, according to his directions when alive. He departed, I say, to fulfil this commission, and as soon as the body was buried he quitted Tarsus."

In another place he says: "The emperor (Jovian) remained a short time at Antioch, distracted by many important cases, but desirous above all to proceed. And so, sparing neither man nor beast, he started from that city in the depth of winter, and made his entrance into Tarsus, a noble city of Cilicia. Being in excessive haste to depart from thence, he ordered decorations for the tomb of Julian, which was placed in the suburb, on the road leading to the defiles of Mount Taurus, though a sound judgment would have decided that the *ashes* of such a prince ought rather to be placed where they might be washed by the Tiber as it passes through the Eternal City and winds round the monuments of the ancient gods."

It is plain that this great tumulus was not erected over the remains of Julian. It probably is that of Gordianus, to whom "a monument was raised by the soldiers, with an inscription, at a place called Zaitha, twenty miles east of the town of Circesium, not far from the left bank of the Euphrates."—Anthon.

Gordian was killed on the farthest border of Persia, in the place where his tomb was still to be seen in the year 363, beyond the Euphrates and the Aboras, between the cities of Cercusa, which stood near the conflux of those two rivers, and that of the Dura, which stands very near the latter, and is about twenty miles distant from the former river. The place was called Zantha or Zaitha. There the soldiers erected to the memory of the deceased

emperor a stately tomb, with an epitaph in the Greek, Latin, Persian, Hebrew and Egyptian tongues.

This last description conforms with the locality where Myers saw this great tumulus. As Philip, who is said to have destroyed this monument, was killed A.D. 249, and the monument was still to be seen in the year 363, it is evident that he did not destroy it.

CHAPTER VI.

A Siberian Tumulus and Its Contents—The Tumuli of Bouchtarma—Tumuli in Chinese Tartary — The Tumuli in the Region of the Lepsou — Marco Polo's Account of the Burial of the Grand Khans—The Great Plain of Central Asia—Two Remarkable Tombs—The Region of the Karatau—An Immense Ancient Earthwork and Tumuli on the Lepsou—Grand Mountain Scenery of the Karatau and the Alatau—Fort Kopal—Huge Blocks of Stone on the Kora—A Remarkable Stone Tumulus—The Mineral Spring and Baths at Arasan—The Pass in Karatau—The Kerghis Range—Large Tumuli—Tumuli Covering an Area One Mile by Four.

TUMULI are numerous even in Siberia. A Siberian barrow was found to contain three contiguous chambers of unhewn stone. In the central chamber lay the skeleton of an ancient chief, with his sword, his spear and bow, and a quiver full of arrows. The skeleton reclined upon a sheet of pure gold extending the whole length of the body, which had been wrapped in a mantle embroidered with gold and studded with precious stones. Over it was extended another sheet of pure gold. In a smaller chamber at the chief's head lay the skeleton of a woman, richly attired, extended on a sheet of pure gold, and similarly covered with a sheet of the same metal. A golden chain adorned her neck, and her arms were encircled with bracelets of pure gold. In a third chamber, at the chief's feet, lay the skeleton of his favorite horse, with saddle, bridle and stirrups.

Thomas Witlam Atkinson, explorer and artist, in the seven years succeeding that of 1847 visited the region of country extending from Kokan, on the west, to the eastern end of the Baikal, and as far north as the Chinese town, Tchin-si, including the immense chain Syan-shan, and a large portion of the western part of Gobi.

In his book entitled "Exploration and Adventure in Siberia," he says: "My first view of the Irtisch was from some high ground, when I beheld the river winding its course through the valley.

Near this place—‘Bouchtarma’—are many large tumuli. The steppe or valley around Bouchtarma is of considerable extent. On the north side of the town there is a conical mound quite peculiar in its form and exceedingly picturesque, and in the neighborhood are many ancient tumuli. Some have been opened, when gold and warlike implements were found in them. I have in my possession a part of a copper knife or dagger dug out of one of these mounds. When it was discovered the Cossacks thought it was gold and cut it in two. This instrument must have been made at a very early period. A little below the mouth of Bouchtarma commences the finest scenery on the Irtisch.”

In Chinese Tartary, within three hours' ride of Tchin-si, he saw a large tumulus, around which were many smaller ones, and he says: “Night brought us to the Tarbogati, along which we must continue our journey. Pursuing about ten versts to the north of Tchoubachack, we passed the Chinese pickets about noon on the second day, and reached a rocky valley just as the sun was setting behind a large barrow. It is about one hundred and fifty feet high, steep and regular in its form. I ascended to the top, and found the tomb of a Kerghis sultan, with many of those of his followers around him. This tumulus has been thrown up by a people of whom we have no trace, and in this part of Asia such ancient works are numerous.” At another place he had seen the summit of a hill studded with them, and some of great antiquity.

Speaking of this same region he says: “There are seven streams running from the Alatou down the steppe, and three find their way into the Lake Tengiz; the others are lost in the sands of the steppe, on which they form extensive and dangerous marshes. There are many and some very large tombs scattered over the steppe, built at different periods, and by different races. The great tumuli are the most ancient. One of these was composed of stones; it is a circle of three hundred and sixty-four feet in diameter, forming a dome-like mound, thirty-three feet high. The stones have been rounded in the Lepsou, and were brought from that river, which runs through the valley, about eight versts distant. None exceed twelve inches in diameter, but most of them are smaller. To whom this tomb belongs the Kerghis have not even a tradition; they attribute all such works to demons, and say their master, Shaitan (Satan, the Devil), has been the chief director. Another kind of tomb of more recent date is circular in its plan, twenty-five feet in diameter, with walls of stone four feet thick, carried up to the height of fifty feet, taking the form of a blast-furnace, with an aperture at the top and an opening on the

side two feet square and four feet from the ground. Through this I obtained access to the interior, where I found two graves covered with large blocks of stone, proving beyond all doubt that the superstructure had been erected over them. The Kerghis assured me that these were built by the people who inhabited the country before the Kalmucks. The third kind, which they say were built by Timour Khan and his race, are of sun-burnt bricks, and in design possess a Mohammedan character; even now some of these are in excellent preservation.*

Marco Polo says: "It has been the invariable custom, that all the Grand Khans and chiefs of the race of Ghengis Khan should be carried for interment to certain lofty mountains name Altai, and in whatever place they may happen to die, although it should be at the distance of a hundred days' journey, they are nevertheless conveyed thither. It is likewise the custom, during the progress of removing the bodies of these princes, for those who form the escort to sacrifice such persons as they chance to meet on the road, saying to them, 'Depart for the next world, and there attend upon your deceased master,' being impressed with the belief that all whom they thus slay do actually become his servants in the next life. They do the same also in respect to horses, killing the best of the stud, in order that he may have the use of them. When the corps of Mangu was transported to this mountain, the horsemen who accompanied it, having this blind and horrible persuasion, slew upwards of twenty thousand persons who fell in their way."

The Chinese annals are not without instances of the practice of immolation at funerals. As late as the year 1661 the Tartar Emperor Shun-chi commanded a human sacrifice upon the death of his favorite mistress.

In the account of the conquest of China by the Mantchou Tartars we are told that the Mantchou king, Tien-ming, invading China to avenge the murder of his father, swore that—in allusion to the customs of the Tartars—he would celebrate the funeral of the murdered king by the slaughter of two hundred thousand Chinese.†

The vast plain of Central Asia is more than two thousand miles in length and one thousand two hundred in breadth, and over this space are scattered at intervals tumuli, some of which are held in great veneration by the Kerghis. Atkinson traversed

* "Exploration and Adventures in Siberia," Thomas Witlam Atkinson, 1865.

† Note to Maesden's "Marco Polo."

a great part of this vast desert, and in his "Journey to the Amoor" he says:

"The river Ayagus, for a short distance, led us among low hills. In this direction (southerly) Ayagus seemed to stand on the verge of a desert that could not afford a mouthful of food to man or beast. Having ridden more than three hours over these barren hills, we reached a plain covered with good pastures. We continued our ride over the plain through great herds of cattle, and in little more than two hours reached our destination.

"The next morning, after riding about an hour, we reached the summit of a hill whence the vast Asiatic plain lay stretched out around me, extending more than two thousand miles in length, from the Caspian on the west to the Bartuck Mountains on the east. Its breadth is about one thousand two hundred miles, and over this enormous space the nomadic tribes wander with their flocks and herds. At some ten miles distance was a broad track of country covered with a substance of dazzling whiteness. Beyond was a lake some twenty-five or thirty miles in length and about fifteen miles in breadth, the shore quite flat, with a belt of reeds about two miles in width extending around it. To the east end, at a great distance, the purple peaks of the Tarbagatai were visible, but on the whole space within the range of vision not a single abode for man could be seen.

"From this spot we proceeded toward the southeast, and a ride of three hours carried us across a broad valley and to the eastern end of another ridge. There are several ancient tombs which are held in great veneration by the Kirghis. Two of these tombs are alike, both in form and dimensions. They are circular in the plan and conical, or, more properly, an elongated dome, with an aperture on the top. From the ground to the apex of the dome the height is about fifty-five feet; on the south side, and about eight feet from the ground, there is an opening about four feet square, and higher up in the dome there is another about two feet square. The interior diameter is twenty-one feet. The walls are four feet thick, and built of stone. In the centre of the tomb are two graves nine feet long and three feet six inches wide, and on each side of these are three other graves six feet long. Around this spot are several smaller tombs and numerous mounds of earth." These tombs are so much like a particular one previously described, having the same form and almost the same size, and built of the same material, that probably they are identical; if so, the two descriptions help to give a better idea of them. "Almost immediately after leaving the tombs we got into a morass, which

was probably the bed of a shallow lake from which the water had evaporated, leaving incrustations of salt on the grass and mud. Not far from this place we reached a part of the steppe covered with efflorescent salt, which is exceedingly bitter. Although we proceeded at a rapid pace, we were more than two hours in crossing this crystallized spot. We then entered on a sterile steppe covered with sand and pebbles.

"We were now on a level plain, but no pastures could be seen. Hour after hour passed with the same monotony around us. We had been nine hours on horseback. Having gone a few miles, the horses scented the pastures. In something more than an hour we perceived that the green was a belt of reeds extending for many miles. We tried to cross the swamp, but found this impossible, as the reeds were ten feet high and so thick that the horses could not force a passage. On reaching the southern end of the reedy border we perceived a Kirghis, whom we desired to lead us to the aoul. He complied, and in about half an hour we were greeted by the barking of dogs as we rode up to the aoul. Night, however, had set in, and nothing could be seen but a few yourts around us. These were located in the pastures of a numerous tribe occupying a region to the west of the Ala-kool. The aoul of the chief was at the distance of a five hours' ride to the eastward.

"The next point of interest to me was the region of Karatau, which bounds the Kirghis steppe to the south. Here were the pastures of the Great Horde, and in one of the valleys Russia was just commencing a fort. A ride of ten days after leaving Ayagus brought me to the river Bean, the boundary between the pastures of the Great and Middle Hordes. Arid steppes were frequently crossed; the only patches of green were the salsola bordering the numerous salt lakes. On approaching the mountains the country becomes more fertile, and affords good pasture for vast herds of cattle. Wherever there is moisture, grass is abundant.

"The *ancient* inhabitants of this region rendered it extremely productive. The numerous canals that still exist show their engineering skill and the extent of the irrigation it produced. In some of the channels the water yet runs, and where it overflows, the sterile soil is covered with a luxuriant carpet of vegetation. There is abundant proof that it has once been densely inhabited. The vast number of tumuli scattered over the plain, the extensive earthworks, which have been either cities or strongholds, afford convincing evidence that a great people were once located here.

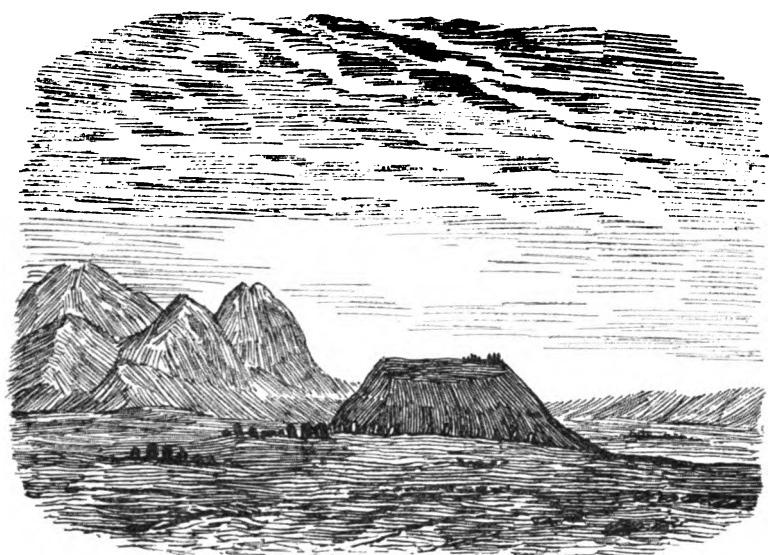
"One of their ancient works on the Lepsou, near its outlet from

the Karatau, is a parallelogram about seven hundred yards in length and three hundred in breadth. The earth-walls are now about twelve feet high, and have been considerably higher; their thickness is about sixteen feet at the bottom and nine feet at the top. This enclosure was entered by four gates, one being in the centre of each side; but the eastern end has been partly destroyed by the river, which is gradually cutting down the bank. Half a mile to the north and south are numerous mounds, and about a mile from the western end there is a large tumulus, about one hundred and fifty feet in diameter and fifty feet high. The people who produced them were a very different race from the present occupants of the country, and had made an extraordinary advance in agriculture and mining. In one of the small mountain-ridges on my route I found a fine specimen of malachite, and came upon the remains of ancient mines, most probably worked at a period long before those of Siberia were discovered by the Chutes, who left many of their flint instruments in the depths of the Altai.

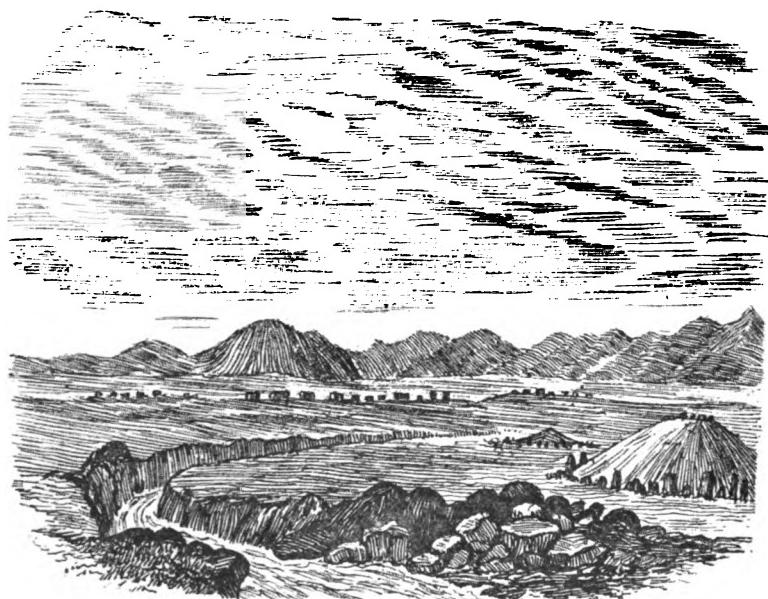
"As we approached the Karatau from the northeast, the mountains were seen rising abruptly from the plain—some to the height of nearly seven thousand feet. After a long day on horseback we were glad to rest in the aoul of some herdsmen belonging to a chief, who gave us a welcome reception.

"In the morning I discovered that the habitation was about ten miles from the foot of Karatau, near its western end, where it descends on to the great plain, along which it runs, in low hills, to a considerable distance. Here I obtained horses and men to take me over the mountains into the valley lying between the Karatau and the Alatau. At length we reached a round hill near the middle of the valley, from which we had a splendid view, looking to the eastward. On the north was the Karatau, on the south the Alatau. Many of the highest crests rise far into the region of eternal snow. Looking along this chain, the snowy peaks appeared to vanish in endless perspective, till the eye rested upon a stupendous mountain mass near the sources of the Acsou and Sarcand.

"Having examined the country, I hastened forward, passing several large tumuli [5], while many more were scattered over the valley. Just at dark we reached a group of yours, to the great astonishment of the Cossack inhabitants. Their officers, however, received me kindly and gave me a hospitable welcome. I had now reached Kopal, the most southerly fort Russia has planted in Chinese Tartary [6]. This military post is situated about 43° lat. N. and 82° long. E., and is only three days' journey from Kulja,



A GREAT TUMULUS NEAR KOPAL.



KOPAL AND TUMULI.



a large Chinese town containing about forty thousand inhabitants. The fort is in the region belonging to the Great Horde of Kirghis, and is significant of the fate which awaits these warlike tribes.

"Four years before my arrival a battery of artillery, consisting of six guns and one hundred men, had been sent into the Alatau, and the officer in command had taken up a position in a pass about eight miles to the southward of the site of the new fort. From Ayagus to their *camp* is a journey of eighteen days. The *fort* is placed on a rising ground about four hundred yards to the east of the river Kopal, which flows through the valley between the Alatau and Karatau. A vast number of tumuli are scattered over the plain, and some are of large dimensions, proving that the region has once been densely populated, or else it has been a vast cemetery, in which, apparently, a nation has been interred.

"Having obtained valuable information from my friends, I determined to cross the Alatau and visit the upper valleys of the Actau. Leaving our friends at the fort, we rode to the gorge where the artillery had encamped. Our way was up the ravine for nearly two miles, and then we ascended to the mountain-slope. In about two hours we reached a deep, rocky, well-wooded glen, running nearly east and west, that we had to cross. On emerging from the ravine our course was directly south and up toward a ridge. An hour's ride brought us to the summit. Beyond were seen the white summits of the Actau. We lost no time in crossing to some lofty crags, near the base of which a great gap was formed in the ridge. On reaching this we passed round the base of the peaks, and saw the deep, narrow valley of the Kora lying beneath. As we looked down into the depth, probably five thousand feet below us, the river appeared like a band of frosted silver.

"I arrived at a part of the valley where the Kora makes a bend towards the cliffs on the north, leaving a space of about two hundred yards in width between the base of the rocks and the river. As I approached this spot, I was almost inclined to believe that the works of the giants were before me, for five enormous stones were standing isolated and on end, the first sight of which gave me the idea that their disposition was not accidental, and that a master-mind had superintended their erection, the group being in perfect keeping with the scene around. The height of one of these blocks above the ground was seventy-six feet, and it measured twenty-four feet on one side and nineteen feet on the other. It stood seventy-three paces from the base of the cliffs, and was about eight feet out of the perpendicular, inclining

toward the river. The remaining four blocks varied from forty-five to fifty feet in height, one being fifteen feet square, and the rest somewhat less. Two of these stood upright; the others were leaning in different directions, one of them so far that it had nearly lost its equilibrium.

"A sixth mass of still larger dimensions was lying half-buried in the ground. On this some picta-trees had taken root, and were growing luxuriantly. About two hundred yards to the eastward three other blocks were lying.* Not far from there stood a pile of stones, undoubtedly the work of man, as a great quantity of quartz blocks had been used, with other materials, in its construction. It was circular, forty-two feet in diameter and twenty-eight feet high, shaped like a dome. A circle of quartz blocks had been formed on the ground, inclosing a space ten feet wide all round the tomb. Finding such a tumulus in this valley surprised me greatly. It could not have been the grave of a chief of the present race, but was as ancient as those I had found on the steppe."

From the river Kora Atkinson returned to Kopal. He says:

"On leaving Kopal I turned my steps to the eastward. A party of Cossack officers with their wives accompanied me to the Arasan, our first night's encampment. From the fortress our way was towards Byan-jà-rouk, a sacred mountain with the Kirghis, over which I had watched the sun rise almost daily for the past five months. Though the steppes had long been covered with a carpet of grass and flowers, doubts were entertained of my being able to cross the Karatau and descend to the plain beyond. My object in attempting this was to meet the tribes and join them on their march to the summer pastures in the high valleys of the Alatau, in Chinese Tartary.

"After taking leave of our Cossack friends we mounted our horses and departed. A ride of little more than an hour's duration carried us beyond the region of tombs and on to a part of the steppe composed of bare granite. In some places huge

* The dimensions of these upright rocks may excite incredulity in persons of the present time, but in the walls of the Temple of the Sun, at Balbec, there are three masses of rock almost as large as those in the valley of the Kora. The dimensions of the rocks at Balbec are: Fifty-eight feet seven inches, fifty-eight feet eleven inches, and fifty-eight feet, each twelve feet thick; and a fourth remains in the quarry from whence the others were taken. It is hewn on three sides; it is fifty-nine feet two inches long, twelve feet ten inches broad, and thirteen feet three inches thick. Some modern travellers make these stones greater. All these stones are of white granite. There is a quarry of this kind of stone under the whole city and in the adjacent mountain, where the unmoved block still remains "as a defiance to posterity to move it."

masses were thrown up, extending in a southeast direction for ten miles. Beyond was a grassy plain running up to the foot of the north side of Byan-jà-rouk, and in the distance were several groups of ancient tombs—the burial-place of a race of whom the Kerghis have no tradition. Not far from one of these, smoke rising indicated the place of our encampment, and a sharp gallop of about eight miles brought us to it. We were now at "Arasan," a hot mineral spring having a temperature of 29° Reaumer, both in winter and summer. A large bath has been formed of rough stone walls, twenty-three feet long, eight feet wide, and four feet six inches deep, and the spring is very strong, giving a column of water three inches in diameter. It has been resorted to for many centuries by Kalmucks, Tartars, Chinese and Kirghis.

"When I looked out in the morning the sun was throwing his rays over Byan-jà-rouk. After the morning repast my friends, except three, returned to their homes. The officer of artillery, with two of his men, rode with me to the pass in the Karatau, where we dined, and then separated.

"A ride of half an hour brought us into the rugged ravine, with its walls in some places rising one thousand feet above us; in other parts it opened into an amphitheatre. We were three hours riding from this place to the top of the pass, whence we had a view over the steppe, that stretched out like a sea beneath us. In one direction smoke was seen, although at a great distance. We were now about five thousand feet above the steppe, and to the east mountains rose abruptly two thousand feet higher. The descent occupied four hours. After leaving the gorge and reaching the crest of a low hill we beheld a few miles to the east a Kirghis encampment. On reaching it we learned that it was an advanced party on their way to the Alatau, and that they had only just arrived.

"This tribe had been more than two months on their march from the shores of the Balkash, the winter resort of all the Kirghis of this region. Theirs is a life of constant migration between the higher valleys of the Alatau and the steppe around the Balkash.

"At daybreak the following morning we left the aoul. After riding about two hours we came upon a great number of ancient tombs, many only small mounds of earth, varying from fifteen to twenty feet in diameter and ten feet high. These were scattered far over the plain. About a mile farther I found others of much larger dimensions, one one hundred and twenty feet in diameter and thirty-seven feet high, with a shallow ditch twelve feet wide and four feet deep running round its base. One hundred feet from

the edge of the ditch was a circle of stones two feet high, and ten feet from this was another of the same height. Directly facing the east was an entrance twelve feet wide, having an avenue of the same width, formed of similar stones, extending eastward one hundred yards.

"Having ridden my horse to the summit of the tumulus, I saw three others to the north, apparently of the same dimensions. One of them was about a mile distant, another about two miles, and the third still farther in a northwesterly direction. To the south I observed a still larger tumulus not far away. The whole intervening space was covered with smaller mounds extending over an area nearly four miles in length by one mile in breadth.

"Here was a place for reflection, and for much curious speculation as to what nation or race occupied these numberless mounds. They have passed away without leaving a single record, and it is impossible to identify them or date their cemeteries. Most probably they were raised by the earliest inhabitants of these vast regions, which, we are led to believe, was the cradle of the human race."

CHAPTER VII.

The Tumuli of Europe—Human Sacrifices—The Burial Laws of Odin—The Irish Tumuli—The Tumulus at New Grange—The Tumulus of Thyre Danebod—The Skip's *Ælunger*, or Ship's Tumulus—The Buried Ship of Gokstad, Norway—Tumuli of Britain—The Ages of Celtic Tumuli—Tumuli of Canterbury, of Cracow, Poland—The Tumulus of Kosiusko.

HAVING mentioned many mounds in Asia where, in several countries, they are termed Tepe, I will now describe some of those of Western Europe which, in several respects, much resemble those already mentioned, and are there called barrows and cairns. The similarity of the ancient funeral rites of the early inhabitants of Asia and Europe, and the similarity of the contents of the tumuli of each of these continents, appear to indicate that the founders of these monuments were actuated by a similar faith and motive in their erection.

The barbarous custom of sacrificing human beings to their deities, and to the manes of distinguished warriors, which characterized the inhabitants of remote antiquity, appears to have descended to the time of the Trojan war. The custom of interring with the dead their arms, their jewelry, and sometimes their horses and ser-

vants, is traced to the mythology of the Northern Asiatic nations, which taught them to believe that they should make an appearance in another world corresponding to the ornaments and attendants deposited in their tomb, and this superstition has descended through many ages.

There are barrows which include a chamber or chambers where the tenant was surrounded with all the prized provisions of his previous life. Sometimes, instead of a chamber formed above ground, the barrow covered a pit excavated under the original surface, in which the interments had been made.

It was a law of Odin that large barrows should be raised to perpetuate the memory of celebrated chiefs; these are composed of stone and earth, and are formed with great labor and some art.

In the fiery age, which was the first among the Northerns, the body was ordered by Odin to be burnt with its ornaments, and the ashes to be collected in an urn and laid in a grave. In the age of hillocks, being the second, the body, untouched by fire, was deposited in a cave or sepulchre under a barrow, and this mode was practiced until the age of Christianity.

In Ireland, barrows are very numerous; the round barrow or chambered cairn prevailed from the earliest pagan period till the introduction of Christianity. The Irish barrows appear in groups in certain localities which seem to have been the royal cemeteries of the tribal confederacies, whereof eight are enumerated in an ancient Celtic manuscript on Pagan Cemeteries. The best known of these is the burial-place of the kings of Tara. It is on the banks of the Boyne, above Drogheda, and consists of a group of the largest cairns in Ireland. At New Grange, in the county of Meath, is a mound, the altitude of which, from the horizontal floor of the cave, is about seventy feet, the circumference at the top is three hundred feet, and the base covers two acres of land. It is founded on an astonishing collection of stones, and covered with gravel and earth. Around its base are the remains of a circle of large standing stones. About the year 1699 Mr. Campbell, who resided in the village of New Grange, observing stones under the sod, carried many of them away, and at length arrived at a broad, flat stone that covered the mouth of the gallery. At the entrance, this gallery is three feet wide and two feet high; at thirteen feet from the entrance it is but two feet two inches wide; the length of the gallery, from its mouth to the beginning of the dome, is sixty-two feet; from thence to the upper part of the dome, eleven feet six inches; the whole length being seventy-three feet and a half. The dome or cave with the long gallery exhibits the exact figure

of a cross, the length between the arms of which is twenty feet. The dome forms an octagon twenty feet high, with an area of about seventeen feet. It is composed of long flat stones, the upper projecting a little over the lower, and closed in and capped with a flat flag. There are two large oval rock-basins in this cave, one in each arm of the cross ; from which, and the cruciform shape of the structure, it is supposed to be the work of semi-Christian Ostmen in the ninth century. General Vallance, however, and other antiquarians, consider this cave at New Grange to have been "*antrum Mithræ*," or a cave for the worship of the Sun, introduced by the Perso-Scythian colony which they suppose to have come to Ireland from Spain, and to have established the customs of the eastern nations. The mode of burial and the species of sepulchral monument at New Grange may be traced through Denmark, Sweden, Russia, Poland and the steppes of Tartary.*

Sometimes chambers are found formed of wood instead of stones. One of the latest examples of the great timbered chamber barrows is that of Jellenge, in Jutland, known as the barrow of Thyre Danebod, queen of King Gorm the Old, who died about the middle of the tenth century. It is a mound about two hundred feet in diameter and over fifty feet in height, containing a chamber twenty-three feet in length, eight feet wide, and five feet high, formed of massive slabs of oak. King Harold, son and successor of Gorm the Old, followed the pagan custom by erecting a chambered tumulus over the remains of his father, on the summit of which was placed a rude stone pillar bearing on one side the memorial inscription in Runes. The king's "*hows*" at Upsal, in Sweden, rival those of Jelling in size and height. In the chamber of one of them, which was opened in 1829, was found an urn full of calcined bones, and along with them some ornaments of gold, showing the workmanship of the fifth and sixth centuries of the Christian era. Along with the calcined human bones were bones of animals, those of horses and dogs being distinguished.

"A remarkable form of tumulus frequent in Sweden, and occasionally seen in Scotland, consists of an oblong mound, larger than the primitive barrow, and terminated at both ends in a point, whence it had been called *skip ælunger*, or ship barrow. Scandinavian antiquarians have come to the conclusion that the bodies of the warriors of the sea were sometimes buried in their ships, whose form was represented in the earthwork raised over their ashes. This opinion has since been verified by the discovery of a Viking vessel thus entombed.

* Governor Powell in the "Archæologia."

"The earliest information about ancient boat-building in Norway is derived from the rude gravings in stone, called "*helleristninger*," which are supposed to have been executed during the period between the birth of Christ and about a thousand years previously. In the old historic times, from about the eighth to the eleventh century after Christ, it is known, from ancient manuscripts, that a custom prevailed among Norsemen, throughout the later centuries of paganism in Scandinavia, of burying the remains of men of note with their ships. This mode of burial has proven of singular importance, as since, in excavating some of these mounds, ships from that remote period have been brought to light in a more or less perfect state of preservation, but nevertheless of the greatest interest and the highest value. Divers ship-tombs have been discovered, and the vessels found very considerable in size, ranging from boats to sea-going ships. In most cases the vessel appeared to have been hauled ashore, placed on an even keel, and the remains of the dead deposited in it, together with such articles as were to accompany the departed for his use in the next world, after which a mound of earth or stone was thrown up over the grave. Vessels of a smaller dimension have been found upturned over the body, and in other cases the ship and all appeared to have been burnt before the interment. Of the mounds excavated up to the present time it has been very exceptional when they consisted of a substance in which wood could be preserved for centuries; and very little of the wood-work was found remaining, often, indeed, not more than enough to ascertain the size of the vessel. The only exceptions met with yet are two ship-tombs found in the south of Norway, where the interment had taken place in blue clay, which is well known for its excellent qualities as a preservative of wood.* One of the ship-tombs was discovered in 1867 in a barrow on the farmstead Haugen, in the parish of Tune, close to the river Glommen, near the Christiania fiord. The tomb contained a vessel with a keel over forty feet long. Unfortunately the upper part of the ship had gone entirely, owing to the

* Five miles north of Natchez, in the State of Mississippi, are a number of dry bayous—deep cavities in the earth caused by the water flowing down the valleys. The caving first begins where the water enters a creek through cultivated land, and then is continued to the head of the valley, when the caving ceases, as there is no longer sufficient water to cause it. Some of these bayous are twenty-five or thirty feet in depth, and at their bottom is a blue clay. The caving sometimes discloses the remains of mastodons, which, falling into this blue clay, are covered and colored by it, and thus preserved. There is beneath the surface of the earth at or near Detroit, in the State of Michigan, a similar clay.

blue clay covering only the bottom. Far more important was the discovery of the ship of which a copy was built and lately exhibited at the World's Fair at Chicago. It was found in 1880, at Gokstad, near a small watering-place called Sande fiord, situated on the western side of Christiania fiord, in a mound where, according to tradition, a king was buried with all his treasure. The ship was found to be in excellent preservation, and it was safely got out by the aid of the Antiquarian Society in Christiania, and afterwards acquired by the Christiania University, where it now lies for view as one of the finest specimens of antique curiosity in the world. Here at last the actual character of vessels belonging to the Viking period was brought to light, and though there may still be found in Norway some mounds near the coast containing ships, it is certain there will not be found any vessel which, in respect to model and workmanship, can outrival the Gokstad ship. This ship measured sixty-six feet in length on the keel, and from outside to outside, between fore and aft, seventy-eight feet; amidship it is sixteen and one-half feet broad, and at the same point four feet in depth from top of bulwark to keel."*

In England the long barrow usually contains a single chamber, entered by a passage under the higher and wider end of the mound. In Denmark the chambers are at irregular intervals along the body of the mound, and have no passages leading into them. The long barrows of Great Britain are often from two hundred to four hundred feet in length, by sixty to eighty feet in width. The chambers are rudely but strongly built, with dome-shaped roofs, formed by overlapping the successive courses of the upper part of the side-walls. In Scandinavia, on the other hand, such dome-roofed chambers are unknown, and the construction of the chambers, as a rule, is megalithic, five or six monoliths supporting a capstone of enormous size. Such chambers, denuded of the covering mound, or over which no covering mound has been raised, are popularly known in England as "cromlechs," and in France as "dolmens."

Barrows are numerous in the counties of Wiltshire and Dorsetshire, in England. They are also found in other counties. Cornwall county was the Cassiterides or Tin Islands of the Phoenicians and Greeks. It was inhabited previous to the Roman conquest by the Carnubii, the Cimbri and the Damnoni. The language of its ancient people was a variety of the Celtic, akin to the Welsh, the Gaelic and the Breton. Ancient British antiquities of great variety, some of them Druidical, and many highly interesting, are

* "Viking," by Alfred A. Holm.

very numerous in this county. Among them are a great many barrows or conical hillocks. The height and dimensions of these barrows are various, from four to thirty feet high, and from fifteen to one hundred and thirty broad ; but they always bear a regular proportion in their form. Some have a *fossa* or ditch around their circumference, others none ; some a small circle of stones at the top, others none ; some a circle of stones around the extreme edge of their base.

Dr. Stephen Williams saw four of them opened by six tinners, who were employed on purpose by himself and another gentleman. He says, after they had opened three of the number, " Though we had hitherto found no urn, yet, being persuaded by the unctuous black earth, the cylindrical pits in the centre of every one of the barrows, the artful position of the stones to cover and guard them, and the foreign earth, that these barrows were erected for sepulchres, we resolved to proceed farther."

Then he gives a particular description of the opening of the fourth, in which they found an urn carefully guarded by a great many stones placed artfully all around it. " This urn," he continues, " is made of burnt or calcined earth, very hard, and very black on the inside ; it has four little ears, or handles ; its sides are not half an inch thick ; in it were seven quarts of burnt bones and ashes ; we could easily distinguish the bones, but so altered by fire as not to be known what part of the skeleton they composed. The urn will hold two gallons and more ; its height is thirteen inches and a half ; its diameter at the mouth, eight ; at the middle, eleven ; and at the bottom, six and a half."

In Scotland mounds of this kind are called Cairns, a name by which they are known also in Ireland, the Isle of Man, and sometimes, too, in Cornwall. Pennant, in both his tours to Scotland, has taken notice of several cairns. " In this country (Banff)," says he, " are several cairns or barrows, the places of interment of the ancient Caledonians, or of the Danes, for the method was common to both nations."

He mentions several of them that were opened, in one of which was found a stone coffin containing the complete skeleton of a human body. In another, a coffin with a skeleton, also an urn ; in a third, the same ; and in a fourth, a large ornamented urn, with three lesser ones, quite plain ; the largest was thirteen inches high.

Very numerous are the barrows in the neighborhood of Stonehenge. We may readily count fifty at a time in sight from the same place, easily distinguishable. Generally they are upon ele-

vated grounds. In some are found only urns filled with bones, in others burnt bones without any sign of an urn. Most of them are surrounded with ditches.*

A vast number of barrows of the Celtic period have been explored in England. Excavations have shown that the remains deposited beneath tumuli were sometimes placed on the level ground, and as often were contained in a cist. Of upwards of twenty-five barrows explored by Mr. Sydenham, in Dorsetshire, the greater part were raised over cists excavated in the chalk. These were covered with a heap of broken flints, apparently fractured for the purpose; then succeeded large, unbroken flints. Above these were successive layers of brown and black mould to the thickness of three feet, the exterior coating being a layer of large flints, two and a half feet in thickness. Among the flints in the inner cairn were found many fragments of charcoal, and the layers of brown and black mould were divided by a sprinkling of ashes. On the floor of the cist were two skeletons in a bent posture (their legs drawn up). Also on the floor of the cist was a plain interment of burnt bones, of which there was a considerable heap. In different places in this mound were found the skeletons, the number discovered being nine. There were also found several urns. In one of these was a quantity of burnt bones, among which were a few beads. A small, perforated cowrie-shell was likewise found. These shells are sometimes found in Anglo-Saxon tumuli. All these articles had been subject to the action of fire.

The occasional finding of cists, beneath tumuli, entirely empty, and without the slightest traces of interment, has given rise to much speculation, but an attentive examination of the floor of the cist will satisfy the explorer that the remains have been entirely decomposed. This decomposition appears to depend not so much upon the nature of the soil as on the texture of the bones. Sometimes the teeth, and occasionally the teeth with the alveolar process, are all that remain.†

The ages of Celtic tumuli have been surmised by the character of their contents. Thus, barrows containing no vestiges of pottery have been assigned to the earliest period. Those in which urns or implements of flint or stone are found are supposed to denote a second or improved stage in the slow march of civilization, while the barrows containing metal weapons and personal ornaments

* Pamphlet, "Description of Stonehenge," quoted in a note by Chevalier.

† American archaeologists may profit by this, and seek not in, but beneath the mounds for relics; and probably the bases of mounds on alluvial soil will be found several feet below the present surface.

are given to a still later period. This classification appears to be based on a rational supposition, yet it is liable to some objections.

A large barrow about two miles southeast of Canterbury, England, was opened about four years since by Mr. Bell, who discovered in it five large urns. "Four of the five urns thus brought to light were precisely alike in form and size, but the fifth was much larger and slightly different in shape and ornaments, the former being eighteen inches in height and thirteen inches in diameter at the broadest part, and the latter not less than twenty-five inches in height and twenty-two in diameter. The material of which they were made was of the rudest description, consisting of half-baked clay, mixed with numerous fragments of silex, which crumbled at the touch, so that their removal entire was impossible. The urns were all found with their mouths downward, filled with ashes, charcoal and minute fragments of bones. The contents of the larger urn were perfectly dry, and portions of the bones were larger; but those of the smaller ones were moist and of the consistency of paste. The mouths of the urns were closely stopped with unburnt clay. Not a vestige of any weapon, bead or other ornament could be discovered. The soil of which the barrow was formed was most excellent brick-earth, which appeared perfectly well-tempered and fit for immediate use without further preparation, and contained not a single pebble larger than a bean. The urns were standing on nearly the same level as the surrounding ground, which, on digging into it, appeared not to have been disturbed."*

Stephens, the celebrated American traveller, speaks of his visit to Cracow thus: "I walked on the old ramparts of Cracow. The city was formerly surrounded with regular fortifications, but its ancient walls have been transformed into boulevards, which command an extensive view of all the surrounding country. On the opposite bank of the Vistula is a large tumulus of earth marking the grave of Cracus, the founder of the city. A little higher up is another mound, reverenced as the sepulchre of his daughter Wenda. About a mile from Cracow are the ruins of the palace of Lobzow, built by Casimir the Great, for a long time the favorite royal residence, and identified with a crowd of national recollections; and, until lately, a large mound of earth in the garden was reverenced as the grave of Esther, a beautiful Jewess, the idol of Casimir the Great. But my heart beat high as I turned to another

* "Archæologie," vol. xxx. The quotation above is abridged.

monument in the environs of Cracow—an immense mound of earth standing on an eminence, visible from every quarter, towering almost into a mountain, and sacred to the memory of Kosciusco. I saw it from the ramparts, and with my eyes constantly fixed upon it, descended to the Vistula, followed its banks to a large convent, and then turned to the right direct for the mound. I walked to the foot of the hill and ascended to a broad table-land, from which the mound rises in a conical form from a base three hundred feet in diameter to a height of one hundred and seventy-five feet.

"It was built of earth, sodded, and was erected in 1819 by the voluntary labor of the Polish people. A circular path winds around the mound. I ascended by this path to the top. It was covered with a thick carpet of grass, and reminded me of the tumuli of the Grecian heroes on the plains of Troy."

Poland abounds in prehistoric remains of the various stone, bronze and iron ages. The Bug and the Vistula valleys were naturally followed by the migratory tribes and traders passing from the Euxine to the Baltic. Pagan graves are very numerous, some of vast size, and certain artificial mounds in the Vistula basin dating from the neolithic period have a circuit of five hundred and seventy yards.*

CHAPTER VIII.

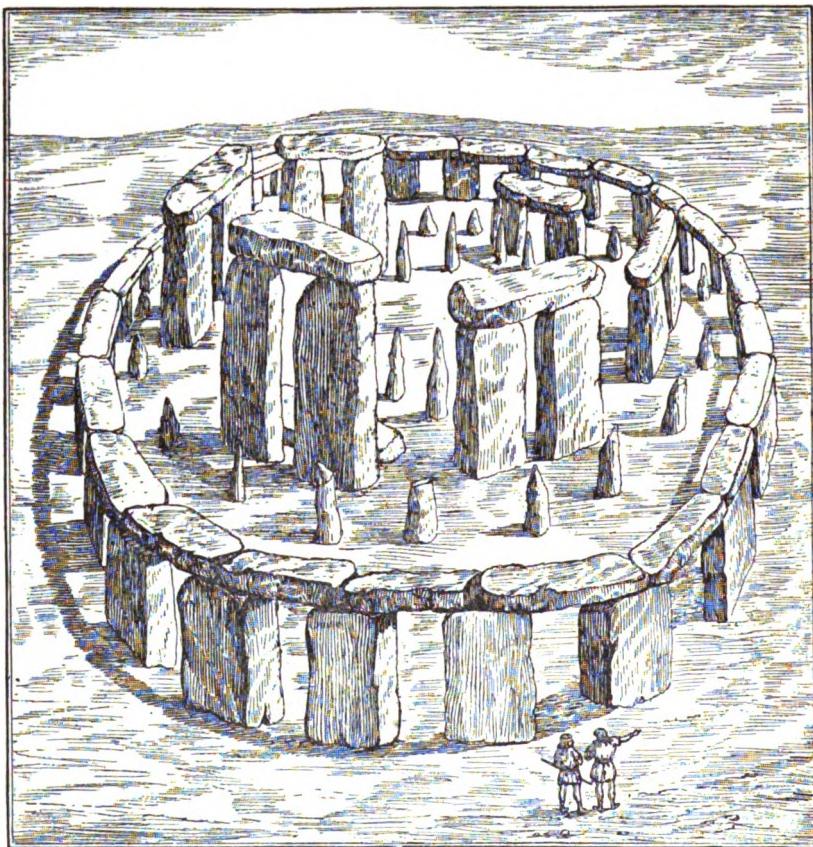
Stonehenge—Avebury—The Gaelic Monuments of France—Carnac.

STONEHENGE.

VERY little now remains of the fallen and standing ruins of the wonderful work of Stonehenge [7], but in the past and its preceding century, when visited by eminent archæologists and architects, the remains of its fallen and standing ruins were so great that they could form a very nearly correct idea of its construction. It is from a small pamphlet, containing abridged accounts of Stonehenge by these distinguished persons, that I have gathered the following in regard to this remarkable relic of remotest antiquity.

Stonehenge is six miles north of Salisbury, and two directly west of Amesbury. The river Avon runs southward from Amesbury to Salisbury, which towns are situated on this river. Stone-

* Elisee Reclus.



STONEHENGE.

henge is situated on one of the swells of Salisbury plain, in Wiltshire county, England. The plain is an extensive tract of undulating chalk country, between Salisbury and Devizes, about twenty miles long from north to south, and about fourteen broad. Stonehenge stands not exactly upon the summit of the swell, but very nearly so, and for more than three-quarters of the circuit is approached by a very gentle ascent, so that the soil, which is chalk, is perfectly dry and hard, and water cannot stand anywhere hereabout.

The idea we conceive of the distances of time when this kind of work was made cannot be ill-founded if we consider that the oldest accounts of them we have in writing are from Britons. This is mentioned in some manuscripts of Nennius,* before the Saxons and Danes came over to Britain; and the oldest Britons speak of them only by tradition far above all memorial. They wondered at Stonehenge then, and went as far to seek about its founders, and the intent of it, as we now.

"A building of such obscure origin and of so singular construction has naturally attracted the attention of the learned, and numerous have been the publications respecting it. Conjectures have been equally various, and each author has penned his own. The revolution of ages frequently elucidates history, and brings many important facts to light; but here all is darkness and uncertainty. We may admire, we may conjecture, but we are doomed to remain in ignorance and obscurity."†

From a manuscript of John Aubrey, written in the year 1665, it appears "That this ancient monument of Stonehenge was mentioned by Caxton, in his 'Chronicles,' as the second wonder in Britain; and that it was a part of the inheritance of the wife of Lord Ferrers, of Chantly, who was a daughter of Laurence Washington, Esq.‡ By the neighborhood it was called Stonedge, i.e., stones set edgewise."

* The most ancient writer who makes mention of Stonehenge is St. Ninian, a Briton of noble birth, who was educated at Rome, and there ordained a bishop. He died in 432 A. D.

† Sir R. C. Hoar.

‡ "The branch of the family to which our Washington belonged sprang from Laurence Washington, Esquire, of Gray's Inn, for some time Mayor of Northampton. The manor of Garsden, in Wiltshire, was the residence of Sir Laurence Washington, second son of the above. Elizabeth, granddaughter of this Sir Laurence, married Robert Shirley, Earl Ferrers and Viscount of Farnworth." —Irving's "Life of Washington."

In the year 1741 "Admiral Vernon found himself at the head of the most formidable fleet that ever had been seen in this part (West Indies) of the world."

Stonehenge is a circular stone structure three hundred feet in circumference, and one hundred feet from the ditch, thirty feet wide, that surrounds it. It consists of four parts, separate and distinct: 1st. An *outer circle* of upright stones, on which horizontal stones, continued all around, formed an elevated circle parallel to the horizon. 2d. An *inner circle* of simply upright stones, parallel to the outer circle, and eight feet three inches from it. 3d. A *hexagon*, fifty-two feet in its shortest diameter and a few more in its longest, formed of trilithons, and about thirteen feet from the inner circle. 4th. An *ellipse* of upright stones, concentric with the circumference of the hexagon and three feet within it.

The *outer circle* consisted of thirty uprights and thirty imposts, rude stones in about the same state as when taken from the quarry. Each upright had on its flattened top two tenons of the form of half an egg, about ten and a half inches in diameter, and on the external parts of its top a ridge or projection.* Each impost had two mortises corresponding with the tenons; one mortise was fitted on the tenon of one upright and the other on the tenon of the next upright; and thus the imposts, reaching from pillar to pillar, and their extremities resting and fitted together on the flattened top of the pillars, formed the elevated circle parallel to the horizon.

The uprights or pillars of the outer circle vary in height, size and distance from each other. Those northward were fourteen feet high, while those southward were only thirteen, because the ground is higher on the south side; and this was nicely and accurately contrived by the ancient builders of it to keep the imposts on them to the same elevation. The height of the *uprights* on each side of the entrance is a little more than thirteen feet, the breadth of one seven feet and of the other six feet four inches; their thickness, three feet six inches; the *impost* on them is about ten feet long, or a little more, two feet eight inches thick, and seven feet broad. The *intervals* between the uprights varied. They were about three feet, or sometimes nearly four, but the interval at the

This fleet attacked Cartagena and failed to capture it. "On the 8th of May the fleet sailed from this scene of misery and distress for the island of Jamaica."

It was in this attack on Cartagena that three hundred sailors and two hundred soldiers, the soldiers commanded by Captains Murray and Washington, attacked and took the Baredera battery, which consisted of fifteen twenty-four pounders. The destruction of this battery was of the greatest service to the army.—"Military and Naval Memoirs," by Robert Beatison, LL.D.

* This ridge or projection, with the tenon, held the end of the impost in its place, and prevented it from sliding to either side.

entrance was rather wider than the rest; this interval was the northeast one. All the stones of the outer circle are a light-colored sandstone.

The *inner circle* consisted of thirty perpendicular, rudely pyramidal-formed stones, one foot and a half broad, one foot thick and six feet high, placed at unequal distances from each other. These stones were of a very dark color and very hard.

The *hexagon* consisted of six trilithons at equal distances from each other; the largest, at the southwestern extremity, and the smallest, at the northeastern, facing each other, and both in a diametrical line with the entrance to the temple. The trilithons rose one above the other, from the smallest to the greatest; the nearest, on each side, to the smallest corresponding, and the same of the nearest, one on each side, to the largest. The length or height of the pillars of the largest trilithon was twenty-one feet six inches; the size of the impost was probably larger than the one described below. The lengths of the pillars of the trilithons next to the largest were respectively twenty-two and twenty-three feet from end to end, including what had been in the ground, which part was of one, three feet, and of the other, three feet six inches; the mean breadth of each pillar of this trilithon is seven feet nine inches, the thickness three feet. The impost, which was a perfect parallelopiped, was sixteen feet long, four feet six inches broad, and two feet six inches thick, and weighed nearly seventy tons. The *spaces* between the pillars of each trilithon were twenty-one or twenty-two inches. The imposts and pillars of each trilithon were fitted together as the pillars and imposts of the outer circle; but the imposts not being continuous and connected, as those in the outer circle, the pillars of the trilithons had each only one tenon, whereas those of the outer circle had each two tenons; besides, the ends of the imposts of the trilithons appear to have projected beyond the pillars. All the stones of the hexagon were a bright-colored sandstone, the same as that of the outer circle.

The *Ellipse* consisted of nineteen upright granite stones, two feet six inches in breadth, one foot six inches thick, and varying in height in the order of the trilithons, from six to eight feet. They were somewhat pyramidal in form, like those of the inner circle, and tapering upwards. They were placed at about the central distance from each other of four feet six inches.

The *Altar Stone* was within the ellipse, about twelve feet from and in front of the greatest trilithon. It was sixteen feet long, four feet wide, and one foot eight inches thick. It was a black stone, different from and harder than the rest.

The *Ditch* which surrounded Stonehenge has different dimensions given it by different writers. Some make it only fifteen feet wide, but others give thirty feet as its width.* It had an embankment on the inner side. Sir R. C. Hoar remarks: "Writers have described this as a deep ditch and thirty feet wide, and have not noticed the ditch being on the outside of the vallum. According to our measurement the ditch could not have exceeded fifteen feet; in short, this whole line of circumvallation was a very slight work. It was about eleven hundred feet in circumference. It did not entirely surround the temple. There was an interval of sixty feet to the northeast, where was the entrance to the *enclosure*, and in face of it the entrance to the temple."

The Avenue.—At this entrance to the enclosure the ditch on each side of it went off northeast in two parallel straight lines, sixty feet apart, to the distance of somewhat more than seventeen hundred feet in a straight line, with a delicate descent down to the bottom of the valley, where it divided into two branches. The earth of the ditches was thrown inward on both sides upon the avenue, to raise it a little above the plain.

The *Western Branch*, from this termination at the bottom of the valley, one thousand cubits from the entrance to the enclosure of Stonehenge, goes off with a sweep at first, and does not throw itself into a straight line immediately, but continues curving along the bottom of the hill till it meets the *Cursus*. At the bottom of the valley and the end of the straight part of Stonehenge Avenue, the *Eastern Wing* turns off to the right with a circular sweep, and then in a straight line proceeds eastward up the hill. It goes just between two most conspicuous groups of barrows, crowning the ridge of the hill eastward of Stonehenge, between it and Vespasian's camp, separated from them both by the deep valley on each side. Whilst we are here, upon the elevation of this hill, between these two famous groups of barrows, each consisting of seven barrows, it is twenty-seven hundred feet from the beginning of this wing of the avenue at the bottom of the valley where it began. It still continues in the very same direction eastward till unfortunately broken off by ploughed ground three hundred feet from hence, and that amounts to seven hundred and fifty feet more in length to the avenue; this is all along the eastern declivity of the hill, and reaches near the bottom of the valley between it and the

* Some give it different widths, it being wider in some places than in others. This variation may probably account for the different widths given to this fosse by different writers.

bill whereon stands Vespasian's camp. Now reason and the judgment I have got in conversing with works of this kind tell me the founders would never begin this avenue at the bottom of a valley, but rather on a conspicuous height, which is visible from a great distance round. We must suppose the intent of the avenue was to direct the religious processions to the temple, and that at the beginning of it they made fires early in the morning of that day when they held their grand festivals, to give notice to all the adjacent country. Therefore when we cross this valley, still eastward, and mount the next hill, whereon stands Vespasian's camp, we find exactly such a place as we could wish, and extremely suitable to that purpose, for it commands an extensive prospect, both upwards and downwards, of the river Avon, and on the other side of it for many miles—all about that part of the country where it is highly reasonable to believe the old Britons lived who frequented this temple. It was the custom of the Druids to give notice by fires of the quarterly days of sacrifice. I observed there had been a bank across the bottom of the valley for the more easy passage of the religious processions, and this much corroborates my conjecture of the avenue reaching hither.

I am apt to believe, from the conformity I have observed in these works, that there was a *Sacellum** or little temple here upon this hill, where the avenue began. In travelling to Stonehenge, or from it, I have found several of these kind of large stones. One, big as any at Stonehenge, lies about three miles northward, in Darrington field, another in the water at Milford, another at Figheldean; they seem to have been carried away to make bridges, mill-dams, or the like, in the river. There is another in the London road east from Ambresbury, about a mile from that town; another in the water at Bulford. What confirms me in the conjecture that there was a *sacellum* here originally is that an innumerable company of barrows on the opposite hill, on the other side of the river Avon, coming down Haradon Hill and in the line of the avenue, seem to regard it, for these barrows are not in sight of Stonehenge itself, by reason of the interposition of the hill whereon stands the group of the seven kings' graves. The distance from hence to Stonehenge is four thousand cubits. In order to have a just notion of this avenue it is necessary to go to the neighboring height of Hara-

* "A small place, consecrated to a god, containing an altar, and sometimes also a statue of the god to which it was dedicated. Festus states that it never had a roof. It was therefore a sacred enclosure surrounded by a fence or wall to separate it from the profane ground around it. Its form was sometimes square, and sometimes round."

don Hill, on the other side of the river. The largest barrow there, which I call Hara's, and which probably gave name to the hill, is in the line of the avenue, the ford of Radfin lying between. From this barrow you see the ground on the hill whereon stands Vespasian's camp, where I conjecture the avenue of Stonehenge began, and where was a little *Sacellum*, as we conceive. From hence to that spot a valley leads very commodiously to Radfin, where the original ford was.

The Cursus.—If from the entrance to Stonehenge you look north-east directly down the avenue, the apex of a hill terminates the horizon, between which and the bottom of the valley you see the cursus, a work which has never yet been taken notice of, being a space of ground included between two long banks going parallel, east and west at three hundred and fifty feet distance, the length ten thousand feet. This was designed for the chariot races and games like the Olympic, the Isthmian, etc., of the Greeks. In the valley, on this side of it, the straight part of the avenue terminates in two branches. That on the left hand leads to the cursus, that on the right goes directly up the hill, between two famous groups of barrows, each consisting of seven in number. The farthest, or those northward, I call *the oldest kings' barrows*; the hithermost are vulgarly called *the seven kings' graves*.

Isolated Stones.—As the spectator advances from the valley up the grand avenue to the temple, the first stone that is met stands two hundred and ten feet from the body of the structure, in the midst of the avenue, and in a straight line with the grand entrance. The shape of the stone is pyramidal, twenty-four feet nine inches in circumference, sixteen feet four inches in height, nine feet broad, and six feet thick. This stone had a hole in it, which is observable of like stones set thus near to similar temples. One hundred feet beyond, and in a line with this last-mentioned stone, was another very large one, in the vallum at the entrance to the enclosure; it was twenty-one feet four inches long, seven feet broad, and three feet thick. It was about eighty-five feet from the temple. On the southeast side of the enclosure, near the vallum, was a stone ten feet six inches high, thirteen feet six inches in circumference, of a pyramidal form, and nearly ninety feet from the temple. On the northwest side of the enclosure, and directly opposite this last stone, was a stone four feet high, eleven feet nine inches in circumference, ninety feet from the temple. These are all the stones detached from this venerable temple.

Directly north and south of the temple, just within the vallum, is the appearance of two circular holes, encompassed with the

earth thrown out of them, but they are now almost effaced by time.*

Wansey, who wrote of Stonehenge in the year 1796 A. D., in his account of it makes the following remark in regard to it: "Stonehenge stands in the best situation possible for observing the heavenly bodies, as there is a horizon nearly three miles distant on all sides, and on either side distant hills; trees might have been planted so as to have measured any number of degrees of a circle, so as to calculate the right ascension or declination of a star or planet. But till we know the methods by which the ancient Druids calculated eclipses long before they happened, so as to have made their astronomical observations with so much accuracy, as Cæsar mentions, we cannot explain the theoretical uses of Stonehenge. It is, therefore, no proof that Stonehenge was not intended for calculating the motions of the heavenly bodies because no present method of making observations is to be applied to the Druids. Their geometrical skill, notwithstanding, cannot be doubted."

Robertson, in the appendix to his "History of India," says: "The method of predicting eclipses followed by the Brahmins is of a kind altogether different from any found among the nations of Europe. In Chaldea also, as well as in Greece, in early ages, the method of calculating eclipses was founded on the observation of a certain period or cycle, after which the sun and moon agree with their former calculations."

Monsieur Bailly, the celebrated astronomer and unfortunate Mayor of Paris, maintained "That none of all astronomical systems of Greece, Persia or Tartary can be made to agree with the Indian tables, which, however, calculated back to remote ages, are found quite as accurate as ours. The place of the sun for the beginning of the Calyougham, in the year 3102 before Christ, as stated in the tables of Tirvalore, is only forty-seven minutes greater than the tables of M. de la Caille, when corrected by the calculations of M. de la Grange.

"Were a learned Brahmin to contemplate on the ruins of Stonehenge, he might possibly comprehend more of its design than we do, and trace some vestiges of an art wholly unknown to us."

From the manuscript of Aubrey we gain some curious information respecting one of the great trilithons of the hexagon. The leaning of the pillar of the greatest trilithon is attributed to the researches made in the year 1620 by George, Duke of Bucking-

* Stukeley, 1743, A. D.

ham, who, when King James the First was at Wilton (the seat of the Earls of Pembroke), "did cause the middle of Stonehenge to be digged, and this under digging was the cause of the falling downe or recumbency of the greatest, not here twenty-one foote long." It finally fell from the effects of a severe freeze on the 3d of January, 1797. In the process of this digging they found a great many horns of stags and oxen, charcoal, batterdashes, heads of arrows, some pieces of armor eaten out with rust, bones rotten, but whether of stags or men they could not tell. He further adds that Philip, Earl of Pembroke (Lord Chamberlayne to King Charles the First), did say: "That an altar stone was found in the middle of the area here, and that it was carried to St. James's."*

Cunningham says: "Any person well versed in mineralogy will perceive that the stones on the outside of the work, those of the outward circle and its imposts, as well as the five hugh trilithons, are all from Marlborough Downs, ten miles north of Stonehenge, which are covered with vast quantities of stones of the same kind, whereas those of the inner circle and the interior oval are composed of granite, hornstone, and most probably were brought from some part of Devon or Cornwall, as I know not where such stones could be procured at a nearer distance."

Stukeley says: "The stones of which Stonehenge is composed, beyond any controversy, came from those called Grey Withers upon Marlborough downs, near Aubury, where is that other most wonderful work of this sort."

THE TEMPLE OF AVEBURY.

At Avebury, or Abury, a village nineteen miles north of Stonehenge, is the site of the most remarkable and stupendous monument of British antiquity, and unquestionably the most considerable and important in Britain. It consists of a great number of unhewn stones placed perpendicularly on the ground, and disposed in parallel rows and circles. There were four of the latter included in a fifth; and at the end of the southern avenue, at one mile distant from the great circle, there were two concentric oval arrangements of stones. The number of stones originally employed in the whole work amounted to six hundred and fifty, and most of them measured from fifteen to seventeen† feet in height.

* As these relics were found between the altar and the great trilithon, where the digging took place, may not these remains be those of the sacrifices offered on the altar? Showing that Stonehenge was not only devoted to astronomy, but also to religious purposes.

† This measure, 15 to 17, is from the *Royal Gazette*; in Rees' *Encyclopaedia*, from which the description is taken, the measure is "from 10 to 19."

above the ground, forty feet in circumference, and weighed from forty to fifty-four tons each. The large circle and the principal part of this temple were surrounded by a very considerable vallum and ditch, which included an area of twenty-two acres of ground, and measured about fourteen hundred feet in a transverse diameter. This bank and ditch must have been produced with immense labor, and its peculiarity of formation proves that it was never intended for a fortified place in time of war, as the bank is thrown up on the outer verge of the ditch; whereas all military encampments have the bank within the ditch, to give an advantageous height of ground to the besieged. The vallum measured about thirty feet in height from the top to the middle of the ditch. Supposing that it was raised for spectators to behold any ceremonies performed in the enclosed area, it would accommodate more than seventy thousand persons and allow two square feet to each. The boundary embraced one large and four small circular arrangements of stones. The first was about thirty-five feet within the ditch, and consisted of a hundred stones placed at nearly regular distances from each other. Within the circle were two double concentric circles composed of eighty-eight stones, three others called the cove, and one called the central obelisk. From the large circle proceeded two avenues, or double rows of large upright stones, placed at nearly regular distances in each row, and from one row to the other. These consisted of two hundred stones extending about one mile in length each way, and were called the Beckhampton and Kennet avenues. The first proceeded from the temple in a westerly direction, and was terminated with a single stone, while the other took a southeastern direction, and had two oval stones at the extremity. The objects we have already described are considered by some persons as the whole of this extraordinary monument; but it seems very probable that Silbury Hill, some cromlechs, other circles, and numerous relics, were originally connected with it. Silbury Hill is considered as the largest tumulus in England, and its situation implies that it was intended to mark the meridian line from the centre of the temple. It was due south of the great circle. It measured one hundred and five feet at the top, five hundred and sixty at the base, two hundred and forty in height, following the surface of its northern side, and sixteen hundred and eighty in circumference at the bottom. From the top of this artificial hill a spectator commands a view of the western avenue and the whole area of the temple, with a considerable tract of flat country to the north and west.

Goths, Vandals and Turks have been stigmatized as the merciless destroyers of every venerable and interesting monument of antiquity ; but surely they are not more reprehensible than many of the inhabitants of this highly civilized and refined country, some of whom have exercised much ingenuity and labor in wantonly and deliberately destroying this singular monument of ancient customs. We have already stated that it originally consisted of six hundred and fifty stones, but most of these have been broken in pieces by means of fire and manual labor, and the dissevered fragments appropriated to the construction of walls, hovels, and common roads. In 1722 only forty remained of the great circle, of which number seventeen were standing ; but these are now* reduced to nine. The interior circles were almost entire in 1716, but in 1723 only two stones were left erect belonging to the outward circle of the northern temple. Of the Kennet avenue there were seventy-two stones in 1772, of which only eight or ten remain ; and only two of the Beckhampton avenue.

The stones used in forming this temple are of siliceous grit, being of the same species as those that accompany the great stratum of chalk which crosses England from E.N.E. to W.S.W. These stones lie on the ground in detached masses, unconnected with any stratum of rock.†

THE TEMPLE OF CARNAC.

The monuments of the first people who are known to have inhabited western Europe still exist, but in all probability ages before these first known inhabitants other peoples inhabited these regions, and transmitted their religious ideas and ceremonies to those who succeeded them. Though the conformation of the coast of western Europe in remote ages is unknown, and though the people who inhabited it and their intercourse with the rest of the world are also unknown, yet great changes are known to have taken place in the earth's surface, and it is probable that lands have been severed that, once united, formed a more extensive continent, which stretched beyond the present limits of western Europe, and it is probable at some day scientific investigation will show that the ancient people of the new world, though separated by vast oceans from those of the old, were nevertheless of the same stock, and that the monuments and the religious ideas

* The edition of Rees' Encyclopædia from which the above was taken is dated 1819.

† In Rees' Encyclopædia, under the name Avebury, will be found an interesting account of the purposes of this wonderful work.

and ceremonies of the most ancient people of western Europe are but prototypes of those of the ancient people of America.

Where the Gaels spread themselves over Britain and Gaul they made their monuments and erected their temples. Some of these have survived the ravages of time and the violence of man. Though some of them be described as still existing, yet it must be borne in mind that many years have elapsed since the original accounts of these monuments were made by observant and intelligent travellers, and that in the meantime the action of the elements and the spirit of utility have made havoc with many of them, and but for the accounts of these travellers the existence of some of them would not now be known. Human violence in some instances has been more effective in the destruction of the monuments of antiquity than the elements themselves. The Gallic structures, though of extreme antiquity, have, from the peculiarity of their situation, survived, while other monuments, more conspicuous and more exposed, have perished. The following accounts of some of the most remarkable monuments of the Gaels will show the extent to which their religious institutions have reached to the north, and the striking resemblance of their monuments in many respects to the most ancient structures of America.

There are met with here and there in France enormous blocks of rude stones erected and fixed in the earth, isolated or in groups, regularly in a right line. They are rarely found in the plains, but frequently in the mountainous country. They are erected most often on mounds, either natural or artificial. Sometimes the block, instead of being planted in the ground, is poised in equilibrium upon another stone, or upon the ground, and oscillates at the least shock without quitting its base. Besides, rude pillars support a table composed of one or more great flat stones, and form a kind of grotto closed at one of its ends by another flat rock. Some of these artificial grottoes are at least twenty metres in depth. In some places, much more rarely, the blocks are arranged in vast concentric circles.

The Gallic stones appear preserved in the greatest number in gradation as we advance towards the west of Gaul. The rows and grottoes of stone take extraordinary proportions in the part of America where they still speak the Cimbric ("Kimbrik") language, especially in the ancient country of the Venetes, the country of the Vannes. Nearly two thousand men-hirs lie scattered overthrown in the single heath of Upper Brambien. At Carnac eleven avenues of granite men-hirs, some of which are twenty feet

in height, remains of a collection much greater, still erect, extend in a straight line farther than the eye can see. At Erdeven and at Plouhinec are also seen considerable rows. At Lecmariaker, among a group of tumuli, dolmens and men-hirs, is seen lying on the ground and broken into four pieces a monolith of twenty-one metres in length, which weighs two hundred and fifty thousand kilogrammes. Not far from there, if one climbs upon the summit of the tumulus which crowns the isle of Gavr-Ynys, in the strait by which the great lagoon of Morbihad communicates with the sea, he beholds the whole of one coast covered with Gallic monuments for three leagues in length by one in breadth, and this solemn horizon is closed by the peninsula of Quiberon, which keeps also its raised stones, and by the immense tumulus of the peninsula of Rhuys, which is one hundred feet in height by three hundred and fifty at the base. In excavating this tumulus there was found buried under an enormous dolman the remains of a human skeleton, thirty knives of jade ascien or tumalite dure, and three necklaces of jasper, agates, and crystal of quartz beads unpolished. The walls of the cavern were covered with sculptures, among which were serpents, lengthened triangles, recalling the cuneiform characters, three collars or necklaces superposed. The neighboring village is called Tumac. It is probable that the tumuli of Tumac was the funeral monument of a great religious chief, for the knives of jade were the sacred implements, and the collars of jasper were probably the sacerdotal ornaments. The collars of knights were of gold. Collars of gold have been found under divers dolmens and tumuli with human remains and earthen vases. The two processes of inhumation and cremation of the dead were known to the Gauls, but the second was preferred as more conformable to their religious ideas.

What was the meaning, what was the object of these rude monuments where man has evidently made it a law not to modify in any respect the forms of nature? What repeated excavations have revealed with certainty is that the tumuli have most often the funereal character, and that this character belongs equally, at least, to a part of the dolmens, as, besides, the Kimric and Gaelic poetry indicates. We cannot doubt, after these same evidences, that these artificial caves in which are deposited the remains of heroes were also sanctuaries. We know also that these sacred enclosures, where were celebrated religious rites, whether they were but plain circles of stones or enclosed structures, were called Nemedes (*Neimheidh*), from the name of a mysterious Eastern patriarch, personification of the unity of the Gallic race in Asia, and

common father of the Gaels and Kimris. This word *Neimheidh* is found as the radical of many Gallic names, as *Nemetum* (Clermont), *Nemausus* (Nimes). *Neimheidh* appears to have signified, primitively, at the same time, temple and priest, law and legislator.

In these enclosures, in these sanctuaries, constructed with the masses of material such as they sprung from the hands of the Creator, never is there erected a representative figure. No idols are discovered on the soil belonging to the ages of Gallic independence. The absence of idols, the undressed stones, the absence of images in architecture—in other words, the interdiction of man to modify by the combinations of his imagination the works of the Creator so as to represent materially the divine powers, are they traits peculiar to the Gauls? History attests the contrary; it is the general character of that religious age of humanity, which we can call with just title the primitive church, of which we can discover the trace among the first Indians, China, and everywhere, and which manifestly appears in the traditions of the Persians, the Hebrews, the Teutons, and all the nomads confounded by the Greeks under the name of Scythians.

These traits, common to the Gauls, with so many Japethic and Shematic peoples, if not with all the primitive world, become for them a distinction in classical antiquity by their fidelity in preserving them in the presence of those cultures of art, image and imagination which constituted Grecian, Etruscan and Latin idolatry.*

CHAPTER IX.

The Serpent Mound of Oban, Scotland—Prehistoric Remains near the Serpent Mound of Ohio—The Kistvean—The Rocking Stone of Fordham, New York, and Druidical or Sabian Circles in Central Arabia—The Monumental Stones of Algeria, Constantine and Tripoli, in Africa—The Men-hirs of Setif, Monumental Stones of Hindustan, the Dekkan and Southern India.

THERE remains something to be said of Serpent Mounds and of some other remarkable monuments of the remotest antiquity.

About three miles from Oban, in Scotland, "lies a huge serpent-shaped mound, the very existence of which was utterly unknown to the scientific world till discovered by Mr. Phené, and by him revealed to the Antiquarian Society in the summer of 1871. But for the presence of one of the few initiated, who had fortunately

* Martin, "Histoire de France."

accompanied us," says Miss Cumming, "we should assuredly have passed close below the heathery mound which forms the serpent's tail (in fact the road has been cut right across the tip of it) without ever suspecting that it differed from the surrounding moorland. In short we should have been no wiser than our forefathers who, for centuries, have passed and repassed along the same beaten tract, whence only an occasional sportsman or shepherd has had occasion to diverge. It does seem strange, however, that not one of these, looking down from the higher ground to the westward, should ever have called attention to so remarkable a form, and one, moreover, which rises so conspicuously from the flat, grassy plain which stretches for some distance on either side with scarcely an undulation, save two artificial circular mounds, in one of which lies several large stones forming a cromlech. These mounds are situated a short distance to the south, to the right of the serpent.

"Finding ourselves thus unconsciously in the presence of the Great Dragon, we hastened to improve our acquaintance, and in a couple of minutes had scrambled on to the ridge which forms his backbone, and thence perceived that we were standing on an artificial mound three hundred feet in length, forming a double curve, like a huge letter S, and wonderfully perfect in anatomical outline. This we perceived the more perfectly on reaching the head, which lies at the western end, whence diverge small ridges. On the head rests a circle of stones supposed to be emblematic of the solar disk, and exactly corresponding with the solar circle as represented in the head of the mystic serpents of Egypt and Phœnicia, and in the great American Serpent Mound. At the time of Mr. Phené's first visit to this spot there still remained in the centre of this circle some traces of an altar, which have since wholly disappeared.

"The circle was excavated on the 12th day of October, 1871, and within it were found three large stones forming a chamber which contained burnt human bones, charcoal and charred hazel nuts. A flint instrument was also found, beautifully and minutely serrated at the edge; nevertheless, it was at once evident on opening the cairn, that the place had been already ransacked, probably in secret by treasure-hunters, as there is no tradition of any excavation for scientific purposes having ever been made here.

"On the removal of the peat-moss and heather from the ridge of the serpent's back, it was found that the whole length of the spine was carefully constructed with regularly and systematically placed stones at such an angle as to throw off rain. To those who know how slow is the growth of peat-moss even in damp and undrained

places, the depth to which it has here attained, though in a dry and thoroughly exposed situation, and raised from seventeen to twenty feet above the level of the surrounding moss,* tells of many a long century of silent, undisturbed growth, since the days when the serpent's spine was the well-worn path daily trodden by reverent feet. The spine is, in fact, a long, narrow causeway made of large stones set like the vertebræ of some huge animal. They form a ridge sloping off in an angle at each side, which is continued downwards with an arrangement of smaller stones suggestive of ribs.

"It is certainly a fact worthy of notice, that wherever names occur combining the syllables Ob and On (the Serpent and Sun deities of Egypt and Phoenicia), there these forms of worship can be proven to have once prevailed, and so it has been suggested, as not impossible, that just as the Israelites called the first place where they encamped, after the upraising of the brazen serpent, Oboth, the race who built the serpentine mound terminating in a solar circle, and who, doubtless, were settlers from some eastern land, may have given the name of Ob or Oban to the nearest town."

In connection with this account of the Serpent Mound of Oban, the following "Prehistoric Remains" will be interesting:

[Correspondence of the *Times-Democrat*, New Orleans, March 4th, 1894.]

"HILLSBORO, O., Feb. 24th, 1894.—Farmer Warren Cowen, of Hillsboro, O., while fox-hunting recently, discovered several ancient graves. They were situated upon a high point of land in Highland county, about a mile from the famous Serpent mound. As soon as the weather permitted, Cowen excavated several of these graves. He informed your correspondent that the graves were made of large limestone slabs, two and a half to three feet in length, and a foot wide. These were set on edge, about a foot apart. Similar slabs covered the grave. A single one, somewhat larger, was at the head, and another at the feet. The top of the grave was two feet below the present surface. Upon opening one of the graves, a skeleton, upward of six feet in length, was brought to light. There were a number of stone hatchets, beads, and ornaments of peculiar workmanship near the right arm. Several large flint spear and arrow-heads among the ribs gave evidence that the mighty warrior died in battle. In another grave was the skeleton of a man equally as large. The right leg had been broken during life, and the bones had grown together. The protuberance at the point of union was as large as an egg, and the limb was bent like a bow.

* This probably indicates the height of the serpent mound.

By the feet lay a skull of some enemy or slave. Several pipes and pendants were near the shoulders."

In the other graves Cowen made equally interesting finds. It seems that this region was populated by a fairly intelligent people, and that the serpent mound was an object of worship. Near the graves is a large field, in which are broken implements, fragments of pottery, and burnt stones, giving evidence of a prehistoric village site. Probably the people buried on the hill lived in this village.*

The Old World has, besides tumuli, other very ancient monuments, which are, in this connection, worthy of notice—monuments to which there are none similar in America—and these are the Druidic circles, cromlechs and dolmens, while the kistveans—that is, stone chests—and loggon or rocking-stones, are found here. Kistveans commonly consist of four flags, three of which are set up edgeways; two, being nearly parallel, and the third at right angles to them, form the three sides of the chest, and the fourth flag, laid flat on top of these, makes the lid. At Fordham, adjoining the city of New York, there was, about the year 1850, a loggon, or rocking-stone, which was, according to my recollection, about three or four feet high and four or five feet long. It was oval in form, both ends shaped alike. It stood on a level surface, without any other stones near it. I do not remember the kind of stone it was. As large as this stone was, I easily moved it with only one hand. Stone chests in the New World have been mentioned by antiquarians as depositaries of the remains of ancient inhabitants of America.

There is a monument mentioned by Palgrave in his "Central and Eastern Arabia," situated about midway between the Arabian and the Persian Gulf, and not far north of the centre of the Arabian peninsula. Palgrave, speaking of it, says: "We halted for a moment on the verge of the uplands, to enjoy the magnificent prospect before us. Below lay the wide plain. . . . All along the ridge where we stood, and visible at various distances down the level, rose the tall, circular watch-towers of Kaseem. But immediately before us stood a more remarkable monument—one that fixed the wonder and attention even of our Arab companions themselves; for hardly had we descended the narrow path where it winds, from ledge to ledge, down to the bottom, when we saw

* It is often mentioned that large skeletons are found in mounds. This probably comes from the fact that great physical force in ancient barbarous times had a great influence among such people, especially when accompanied with intelligence and courage; and such men became chiefs, distinguished themselves, and were buried with great demonstrations of veneration and respect.

before us several huge stones, like enormous boulders, placed endways, perpendicular on the soil, while some of them yet upheld similar masses laid transversely over their summits. They were arranged in a curve—once forming a part, it would appear, of a large circle—and many other like fragments lay rolled on the ground at a moderate distance. The number of these still upright was, to speak from memory, eight or nine. Two, at about ten or twelve feet apart, one from the other, and resembling huge gate-posts, yet bore their horizontal lintel—a long block laid across them; a few were deprived of their upper traverse; the rest supported each its head-piece, in defiance of time and of the more destructive efforts of man. So nicely balanced did one of these cross-bars appear, that, in hope it might prove a rocking-stone, I guided my camel right under it, and then stretching up my riding-stick at arm's-length, I could just manage to touch and push it, but it did not stir. Meanwhile, the respective heights of camel rider and stick, taken together, would place the stone in question fully fifteen feet from the ground.

"These blocks seemed, by their quality, to have been hewn from the neighboring limestone cliff, and roughly shaped, but present no further trace of art—no groove or cavity of sacrificial import, much less anything intended for figure or ornament. Pointing towards Rass, our companions affirmed that a second and similar stone circle, also of gigantic dimensions, existed there; and lastly they mentioned a third towards the southwest; that is, on the confines of Hejaz.

"That the object of these strange constructions was in some measure religious, seems to me hardly doubtful; and if the learned conjectures that would discover a planetary symbolism in Stonehenge and Carnac have any real foundation, this Arabian monument, erected in a land where the heavenly bodies are known to have been once venerated by the inhabitants, may make a like claim; in fact, there is little difference between the stone-wonder of Kaseem and that of Wiltshire, except that the one is in Arabia, the other, though the more perfect, in England."

Miss Cumming, in speaking of the Druidic monuments of the Old World, says: "Of all the wide-spread links which bind together the shadowy past of the *Eastern* and *Western* worlds, none are more striking than the stubborn facts of these mysterious stone circles and other rude stone monuments. On the remotest Orcadian Isles, as in the Hebrides, on the green shores of the Isle of Lewis, and beneath the mountain peaks of Arran, and in many another isle, we find the same uncouth temples and tombs that

meet us again in the heart of the Indian jungle. Perhaps the most noteworthy monument of the sort in Scotland is the serpentine double avenue at Kames, on the Kyles of Bute, discovered so recently as January, 1875.

“ Whatever truth or falsehood there may be in the theories which connect these cyclopean remains with the worship of olden days, certain it is, as we travel eastward we again and again find the same forms repeated so exactly that it seems hardly possible to doubt their having been the work of kindred races. Thus on certain stones near Carthage the circle and crescent are found carved as emblems of the sun and moon, just as on the British monuments. As to Algeria, it has recently been discovered to abound in every known form of rude stone monuments, even including that mysterious combination of square with two circles which has puzzled antiquarians in the American States. At one spot, Roknia, three thousand monoliths are grouped together as if in a vast city of the dead ; and a second cluster, nearly as large, has since been discovered near Constantine. In the district near Setif the number of men-hirs has been calculated at ten thousand, including some stones so gigantic that one is described as fifty-two feet high and twenty-six feet in diameter at the base ; while we hear of a dolmen near Tiaret, the cap-stone of which is sixty-five feet long by twenty-six feet broad, and upwards of nine feet thick —a rock-mass which is poised on boulders of thirty to forty feet high.

“ Tripoli likewise possesses many of these mysterious remains, more especially certain groups of three great stones so placed as to form high, narrow door-ways, so narrow that a man of average size can scarcely squeeze his way through between them.* We next hear of them being discovered by Palgrave in Central Arabia, where he finds them placed, as at Stonehenge, in connection with circles of great monoliths.

“ To pass onward to Hindustan, we find dolmens in Malabar consisting of one huge stone poised on three upright ones, precisely the same as those found in Britain. There is not one form of cyclopean monument known in the British Isles or in France which does not also exist in the Dekkan, either for worship or for sepul-

* In “The Antiquities of England and Wales,” by Francis Grose, is this : “There is a rock of the Tolmen kind at Bombay, in the East Indies, which is held in great veneration by the Gentoos. It is called the rock of purification. A passage through it is considered as purifying the penitent from all sins. The aperture is described as so small that a man of any corpulency cannot possibly squeeze through.”

ture; oblongs, circles, parallel lines, and many little circles within one large circle.

"In various parts of Southern India there have been found a great multitude of circular sepulchral tumuli. They contain the same class of relics, coarse pottery, arms, arrow-heads, &c., buried sometimes with bodies, sometimes with urns containing human ashes collected from funeral pyres after cremation. They exist in thousands to the south of a line drawn from Nangpore to Belgaum. In parts of Mysore and the Neilgherries, in Arcot and other places they are met with in large numbers, occasionally accompanied by kistveans; sometimes by dolmens and cromlechs; in fact just what we call Druidical stones. In some of these kistveans are found bodies carefully laid, while above them are heaped human bones, male and female, in indiscriminate confusion, as though they had been offered in sacrifice to the dead. The same tumuli are found by thousands near the Krishna and Moosy rivers. It is rather a singular and hideously suggestive fact that in some of the corresponding barrows of ancient Britain these bodies that seem to have been sacrificed to the dead are found in such a condition, with bones split and skulls cracked, and all tossed about in wild-est confusion, that it is generally supposed the flesh had been eaten at some cannibal feast after the sacrifice! a custom which some of the Indian hill tribes are suspected of having kept up till a very recent date." It thus appears that mounds of various kinds have been erected in almost all the inhabited parts of Europe and Asia; that they have been the work of different peoples at divers times, during a long succession of ages, and that many of them are the most ancient monuments in the Old World.

CHAPTER X.

THE TUMULI OF AMERICA.

Peru—Religion—Deities—Huacas—Academies—Astronomy—Division of Time
—Festivals—Sacrifices—Navigation of the Peruvians—Of the Yucatans—
Of the Floridians.

In the Old World, history has transmitted to posterity the origin of some of the tumuli still existing there after the lapse of nearly three thousand years; has given an account of their construction and the purposes for which they were made; while the record it has given of the religious rites that prevailed to a great extent in that remote period has thrown much light on other tumuli of

which there has been transmitted no record. But the New World presents not advantages to the same extent in studying the monumental remains of its early inhabitants, who have left similar monuments scattered over its surface, and it is only by reference to the religion and customs of its more recent inhabitants that a knowledge can be acquired of the object and purposes of monuments of a later date, while the design of those of a more remote period may probably remain forever in oblivion, with the human remains they once contained mouldered to the dust from whence they came.

The religious sentiment caused the huge temples and pyramidal piles of Egypt, and the beautiful temples hewn in the granite mountains of India; and a similar sentiment probably produced many of the rude monuments scattered over the New World, the tumuli of extinct and forgotten nations. In the many ages that America has been populated the various nations that have risen and perished, impelled by that motive peculiar to man, have endeavored to perpetuate the memory of their existence by leaving their monuments to posterity, and thus have these tumuli and earthworks increased, until now they are found from Canada to Chili.

The continents of America have, like those of the Old World, been occupied for ages. Nations and empires have risen and perished, and been succeeded by others which, like those that preceded them, have had their day.

Ciezar de Leon, in speaking of the Indians of the province of Quinbaya, on the upper waters of the river Magdalena, says: "In ancient times these Indians were not natives of Quinbaya, but they invaded the country many times, killing the inhabitants, who could not have been few, judging from the remains of their works, for all the dense canebrakes seem once to have been peopled and tilled, as well as the mountainous parts, where there are trees as big around as two bullocks. From these facts I conjecture that a very long period of time has elapsed since the Indians first peopled the Indies."

The Mexicans, like the barbarians who invaded the civilized portions of Europe in the fourth century, and the Arabs who overran the civilized portions of western Asia and of northern Africa in the eighth and several succeeding centuries, found the people of the countries which they invaded more civilized than themselves. And the same may be said of the Asiatic hordes led by Zenghis Khan and his successors in the thirteenth century.

The Peruvian religion, founded upon the worship of the Sun,

was introduced by the Incas, and superseded an anterior worship. Previous to this reform the ancient inhabitants of Peru professed a creed which, however grossly disfigured it may have been by puerile superstitions, still attained to the conception of a Supreme Being, Creator of all that exists. The Supreme Being was called *Con*, and had no human form or material body, but was an invisible and omnipotent spirit which inhabited the universe.

The human race giving themselves up to vice and crime, and disregarding the respect due to *Con*, he converted their fertile regions into sterile deserts, and transformed the race into black cats and other horrible animals, leaving the earth uncultivated and deserted, until *Pachacamac*, son of *Con*, taking charge of the government of the world, re-created all that had been destroyed by his father.

The temple of *Pachacamac*, the immense ruins of which are still visible near the town of Lurin, to the south of Lima, was the only one throughout the whole country that was dedicated to the Supreme Being. Pilgrims from distant territories directed thither their steps to present their offerings and worship the Deity. They passed with safety even through the inimical provinces against which they had declared war, without other conditions than that they should go in small parties, unarmed, under which condition they were entertained and supported in all parts according to the mutual convenience of all parties. According to vestiges long prior to the introduction of the religion of the Incas, it is not probable that their religion was limited to the single worship of *Con* and *Pachacamac*.

Upon the introduction of the new religion, the Inca, its founder, incorporated it with cunning artifice into the prevailing religion. He declared to the nations that the Supreme Divinity was the Sun, without whom nothing could exist in the world; that the gods *Con* and *Pachacamac* were sons of the Sun; that he himself, the revealer of this doctrine, was a brother of these other, and consequently a son also of the Sun; that his omnipotent father permitted him to incarnate himself and descend to the earth in order to teach men the arts and sciences and to instruct them concerning the will of the Supreme Being.

The Sun was the Supreme Being whom the nation respected by erecting sumptuous temples wherein they offered most exquisite and costly sacrifices; but the Inca, as a son of the god, was considered as a personified deity—the immediate organ of the Supreme Being, and entitled to the same homage with him.*

* How much like the vainglorious sovereigns of the Old World, who would

Faith in the immortality of the soul was one of the fundamental ideas among the Peruvian nations. They believed that after death the just went to a beautiful and pleasant place, unknown to the living, where they received the reward of their virtue, whilst the souls of the malicious were tormented in a doleful place filled with sorrow and fright; and that after a certain time they should return to their bodies, beginning a new terrestrial life, continuing the same occupations and making use of the same objects which they had left at the time of their death. This belief induced them to preserve the corpses with great care, and to bury the dead with a part of their clothes, their utensils, and sometimes with their wealth.

The judge of the human race was, according to the belief of the Peruvians, Pachacamac himself, and in some provinces, Con; they not being willing to believe that the Sun was to be considered as the Supreme Judge, notwithstanding the efforts made by the Incas to familiarize them with this opinion.

The Peruvians also believed in another being, of evil disposition, and very powerful, animated with an inextinguishable hatred against the human race and disposed to injure them as much as possible. This being was called *Supay*, and in some places was worshipped in temples wherein were sacrificed to him children of tender years. But Supay was subordinate to Pachacamac, and none could injure those who were protected by this beneficial divinity, the invocation of whose name alone was sufficient to appease all malignant spirits.

The worship of Pachacamac was much more widely extended than historians suppose, and we may safely say that he was the deity most popular and most respected by the Peruvian people generally; whilst the religion of the Sun was that of the court, a worship which, although generally recognized by the Peruvians, never succeeded in eradicating their faith and devotion to the primary divinity.

The Peruvian monarch, Pachacute, knowing how imprudently it would be to openly oppose the worship of Pachacamac, succeeded, with his customary cunning, in indirectly undermining it, and in amalgamating it with the Sun worship. His successors followed the same policy, and in a few years the worship of Pachacamac fell almost into disuse. Finally the priests constructed a horrible idol of wood with a human face, thus personifying in the most profane manner the divinity who for so many centuries had

have their ignorant and superstitious subjects believe that they rule by divine favor—in fact, that they are the vicegerents and representatives of the deity on earth.

embodied the sublime thought and ideal conception of the Peruvian worship ; and they abused the idol to subserve their purposes, causing it to pronounce feigned oracles, and enriching themselves at the cost of the nation's credulity.*

As sons of the Supreme Divinity the Inca enjoyed, even after death, general adoration. Their obsequies were celebrated with the greatest pomp and solemnity, and to their corpses were offered numerous sacrifices. The deceased monarch was embalmed with so much dexterity and skill that he seemed to be living, and in this state he was preserved entire centuries. His intestines, deposited in vases of gold, were preserved in the magnificent temple of Tambo, four leagues from Cuzco, while the body was seated upon a species of throne, in a natural position, before the figure of the Sun, in the principal temple of the capital.

The body of Huayna-Capac was so well preserved that it seemed to be alive. The eyes were made of very thin gold, and so well formed that they seemed natural, and the whole body was prepared with a species of bitumen. There appeared on the head the scar of a stone thrown in war, and the long hair was visible, very hoary and perfect. He had died about eighty years previous. This mummy, with several others of the Incas, was brought from Cuzco to Lima. The bodies weighed so little that any Indian might carry them in his arms or on his shoulders from house to house of the gentlemen who wished to see them. They carried them covered with white cloths through the streets and squares of Lima, surrounded by the Indians worshipping them with tears and groans, and many Spaniards lifted their caps as they passed, because they were the bodies of kings. Finally the mortal remains of these powerful and wise monarchs were interred in a court of the Hospital of Saint Andrew, in Lima.†

The Peruvian deities are divided into deities of this world, and these again into *stella* and *terrestrial*; into historical deities, deities of the *nation*, or of the *people*; finally into deities of *families* or *individuals*, similar to the *lares* and *penates* of the Romans.

The Sun (*Inti*) was the god *par excellence*, the protecting

* "I am the Lord thy God. Thou shalt have no other gods before me. Thou shalt not make unto thee any *graven image*, or any *likeness of any thing* that is in heaven above, or that is in the earth beneath, or that is in the water under the earth. Thou shalt not *bow down thyself to them nor serve them*." Explicit as this is, yet there are persons who *bow down to images and pictures*. The idea of a supreme omnipotent being is blended with the basest idolatry and superstition by both civilized and savage peoples.

† "Peruvian Antiquities" by Rivero, translated by the Rev. Dr. Hawks.

deity, he who presided over the destinies of men, the origin of the royal family. To the Sun belonged the magnificent temples in all the cities, and in almost all the villages of the vast Peruvian territory. Numerous were the priests destined for the service of the god, and by day, as well as by night, a certain number of the attendants were obliged to watch in turn in the temple, and to fulfil the prescribed offices. In some parts of the empire the priests maintained a perpetual celibacy; in others they were married, but while the fast lasted they abstained from all personal contact with their wives. The chief priest, *Huillca-Uma*, who was an Inca of the royal blood, and belonged to the sacerdotal society of the Sun, possessed the government of the other priests of the empire. He resided in Cuzco, and extracted auguries from the flight of birds and from the entrails of victims, in the presence of the Inca. At the solemn feasts the King himself in person was the high priest, for which purpose he was initiated and consecrated in all the mysteries of religion.

There were virgins dedicated to the Sun, considered as wives of the god. These lived in cloisters or convents, in the greatest retirement. The most celebrated was *Acllahuasi*, in Cuzco, or house of the select ones, who were made such either from their lineage or for their beauty. This contained more than one thousand virgins. Those who could aspire to admittance within this sacred college were the maidens of royal blood. They were obliged to pronounce the vow of perpetual virginity and seclusion without the slightest connection with the world, or even with their parents. Not even the Peruvian monarch dared to tread within the precincts of the monastery, a privilege which was only, by reason of their sex, enjoyed by the queen and her daughters.

The wife of the Inca who was convicted of adultery was subject to the same penalty as the virgin of the Sun who proved false to her vows. If she swore that the Sun himself was the author of her pregnancy, she was allowed to live until the time was accomplished for her delivery, and was then buried alive.* The fruit of her union with the deity was reserved for the priesthood, or was destined to form a part of the sacred society of the virgins of the Sun, according to the sex.

* The same penalty was inflicted on a vestal virgin for a like violation of her vow. Romulus and Remus were twins of a vestal virgin, and Mars was their father. It is probable that this Mars was some distinguished man who deceived the virgin. A case of this kind is related by Pausanias, and the destruction of the temple of Serapis, at Alexandria, was occasioned by the detection of a similar fraud of the priest.

The Moon, *quilla*, considered as the sister and wife of the Sun, was an object of profound respect, but the worship given to it was much more limited than that given to the Sun. Venus, *Chasque Coyllur*, was worshipped as a page of the Sun. Among the elemental deities were air, fire, lightning and thunder, and the rainbow. The terrestrial deities were very numerous, and the Peruvians sacrificed to all of them. They were the earth, hills, mountains, rocks of uncommon shape, the sea, rivers, lakes, etc. The chief of the historical deities, and one intimately connected with Peruvian history, was Viracocha, who more than once appeared in human form to the Inca of the same name, saying he was the son of the Sun and brother of Manco Capac.

The Incas enjoyed, even after death, general adoration. Besides the Incas, the Peruvians also adored heroes in some of the provinces, and it seems that this worship originated before the Incas conquered their territories. The greater number of historical gods were *Huacas*, or gods of towns or provinces, of which there were made figures of stone or wood.

The most interesting of the Huacas was found about two leagues from the town of *Hilavi*, on an elevated summit, where were found the sepulchres of Indians, of rich sculptured stone chambers. There was here a stone statue three times the height of a man and of magnificently sculptured stone, with two monstrous figures besides—one of a man who looked towards the west, and the other, with the face of a woman, on the same stone, at the back of the former, who faced the east. On both might be seen serpents, which were twined from the feet to the head, and about the soles of the feet there were gathered other reptiles and toads. In front of each one of their idols was a square stone of a span and a half in height, which seemed to serve as an altar. In order to break in pieces so valuable a monument, a Jesuit employed more than thirty persons for three days.

The Huaca-Rimic, on the river Rimic, was also greatly celebrated. It had a human figure, and was found in a magnificent temple, in which oracular responses were given to all questions put by the priests. Not only throughout the nation of the *Yuncas*, who occupied this valley (of Rimic), but through the entire surrounding country was this idol worshipped, and even from distant provinces deputies came with questions and offerings. From Limatambo to Maranga there exists a great number of Huacas, some being more than fifty yards in length and about fifteen in height.

Individual and family deities were innumerable. Each house

and individual possessed its characteristic and tutelar divinity. Among the former were the so-called *Malquis*, or *manaos*, which were the entire bodies of the ancestors reduced to a mummy or skeleton state, which the descendants piously preserved in the tombs, arranged in a manner that they might easily see them and offer them sacrifices. At the same time they gave them food and drink, for which they interred with them vessels and dishes, which they filled from time to time with food. They also placed at the side of the departed, in the sepulchres, arms, utensils and other spoils which they had used in life. Thus, if the deceased were a warrior, they interred with him implements of war; if he were a workman, they buried with him signs of his trade; if a woman, they buried spindles, shuttles, cotton and wool.

Under the collective name of *Conopa*, or *Chanca*, the Peruvians designated all the minor deities worshipped by single families and individuals, excepting those already mentioned in fields and canals. They counted several classes of them, although they applied the names above mentioned particularly to individuals. Every small stone or piece of wood of singular form was worshipped as a Conopa. These private deities were buried with their owners, and generally hung to the neck of the dead. Sometimes they are found made of metal, like a human figure, or with an allusion to some event in the life of the individual who worshipped them.

The most esteemed Conopas were the Bozoar stone (*quicu*), and the small crystals of quartz rock (*quispi* or *Llaca*). Many and various Conopas are copied from the Llamas, Alpacas, Vicunas and Huanacas, and these idols are made of basalt, of black stone, of porphyry, carbonate of lime, granite, clay, silver, and even of gold. And among the Conopas was found the representation of a sheep in silver, so well soldered that with difficulty only could the union of the different parts be perceived. They also worshipped as Conopas deer, monkeys, mountain cats, parrots, lizards, fishes, etc., which they made of clay and hollowed out in the form of small vessels, which they interred with the dead, for the purpose of pouring into them the chicha of sacrifice.*

* Nothing so degrades a people as idolatry. The more ignorant and superstitious they are, the more degraded they become; the more degraded they are, the more subject they are to the influences of idolatry and superstition; and this is the whole secret of the power of the priesthood of antiquity and of the hierarchical governments that then prevailed. Of course there is nothing of this kind in these enlightened days of modern times. Knowledge is light; ignorance is darkness. They cannot exist together.

There were in Cuzco and other principal cities academies under the superintendence or direction of the Incas, to instruct the young disciples in all military and knightly exercises, as well theoretical as practical, and from them came the chiefs of the army. The representatives of the other sciences did not belong to the priesthood, but formed the separate class of the *Amautas*, or sages, who lived in these establishments of learning, *Zachahuasi*. The knowledge of the *Amautas* in mathematical science was almost nothing. They had made but small progress in astronomy. The methods by which they discovered the exact time of the solstices is described by Garcelossa:

They determined them by eight towers which they had erected to the east, and as many to the west, of the city of Cuzco, being ranked four and four in several positions, the two in the middle being higher than the other two at each end, and were built much in the form of the watch-towers in Spain. When the sun came to rise exactly opposite to four of these towers which were to the east of the city, and to set just against those in the west, it had then the summer solstice; and in like manner, when it came to rise and set just with the other four towers on each side of the city, it was the winter solstice.

To denote the precise day of the equinoctial they had erected pillars of the finest marble in the open area in front of the Temple of the Sun, which, when the sun came near the time, the priests daily watched and attended to observe what shadow the pillar cast; and, to make it more exact, they fixed on them a gnomon like the pin of a dial, so that as soon as the sun, at its rising, came to dart a direct shadow by it, and that at its height, or mid-day, the pillar made no shadow, they concluded that the sun had then entered the equinoctial line. The Incas and *Amautas*, having observed that when the sun came to the equinoctial these pillars made little shadow at mid-day, and that those in the city of Quito and those of the same degree to the sea-coast made none at all, because the sun is there perpendicularly over them, they concluded that the position of those countries was more agreeable and pleasing to the Sun than those in which in an oblique manner he darted his rays.

The *Amautas* noted the movements of Venus, the only planet which attracted their attention, and which they venerated as a page of the Sun. They knew some few of the constellations. They were frightened at the eclipse of the sun and moon, particularly at those of the latter planet, believing that it threatened to burst or explode upon the earth, and to avoid the danger they

broke forth in frightful shouting, endeavoring to make all the noise possible, from the time the eclipse began, with instruments of all descriptions; also beating dogs to make them howl and augment the general confusion.

The entire lunation they divided into four equal quarters, beginning always with the first day of the new moon. Thus the first section or period lasted until the day of the fourth crescent; the second until the apposition; the third until the fourth decline; and the fourth until the conjunction. They counted the months by moons, but the year from one winter solstice to another; this they subdivided into twelve equal parts, forming thus a solar year. The time which remained from the end of the lunar year until the completion of the solar was called *puchuc-quilla*, or residue of the moon, and was devoted to leisure. They distributed the solar year into four seasons: spring, from the vernal equinox to the summer solstice; the summer, from the summer solstice to the autumnal equinox; the autumn, from the autumnal equinox to the winter solstice; and the winter, from the winter solstice to the vernal equinox. At each one of the four seasons they celebrated a general solemn feast.

The Peruvians did not divide the day into hours, and could not keep an exact astronomical account.

The year was divided into twelve months, and began, according to some authors, in the summer solstice, at the end of June; according to others, in the winter solstice, at the end of December. It is certain that in Cuzco it began with this latter month, and in Quito, according to the laws of the Inca, Huana-Capac, in the summer solstice.

I will here interrupt the account of Peruvian astronomy, taken from "Peruvian Antiquities" by Tschudi and Rivero, to insert the following from "Antiquities of the West." "There is an opinion among the Seneca nation of the Iroquois confederacy, living at *this day** in the region south of the Lake Ontario, that eclipses of the sun and moon are caused by a Manitau, or bad spirit, who mischievously intercepts the light intended to be shed upon the earth and its inhabitants. Upon such occasions the greatest solicitude exists. All the individuals of the tribe feel a strong desire to drive away the demon, and to remove thereby the impediment to the transmission of luminous rays. For this purpose they go forth, and by crying, shouting, drumming and the firing of guns, endeavor to frighten him. They never fail in their object, for by

* "Antiquities of the West" was finished January, 1820.

courage and perseverance they infallibly drive him off. His retreat is succeeded by a return of the obstructed light.

"Something of the same kind is practiced by the Chippewas, at this time, when an eclipse happens. The belief among them is that there is a battle between the sun and moon, which intercepts the light. Their great object, therefore, is to stop the fighting and separate the combatants. They think these ends can be accomplished by withdrawing the attention of the contending parties from each other, and diverting it to the Chippewas themselves. They accordingly fill the air with noise and outcry. Such sounds are sure to attract the attention of the warring powers. Their philosophers have the satisfaction of knowing that the strife never lasted long after their clamor and noisy operations had begun. Being thus induced to be peaceful, the sun and moon separate, and light is restored to the Chippewas.

"Now it is reported, on the authority of one of the Jesuit fathers of the French mission to India, that a certain tribe or people whom he visited there ascribed eclipses to the presence of a great dragon. This creature, by the interposition of his huge body, obstructs the passage of the light to our world. They were persuaded that they could drive him away by all the terrific sounds they could produce. These were always successful. The dragon retired in alarm and the eclipse immediately terminated."

In each month of the year the Peruvians held feasts, but the principal ones related to the Sun, and they celebrated the solstices and the equinoxes. The most solemn of all was the summer solstice.

This feast was in token of gratitude and thankfulness for the benefits which the nation enjoyed, and was solemnized throughout all the countries governed by the Incas. There were assembled at it the chiefs and princes of the empire; those who could not attend sent their sons or relatives, with the most noble lords of the territory. The multitude was innumerable. From the neighboring provinces women were sent to dress the food of the multitudes, and chiefly to knead a species of cake of boiled corn, called *zancu*, and eaten only at the solemn feasts. The feast was preceded by three days of religious fasting, during which time the only food consisted of a little white raw corn and a certain herb called *chucan*. At the same time no fire was permitted to be kindled in any house. The first sacrifice consisted generally of a young black llama. The priest opened with the sacred knife the left side and tore out the heart, with the lungs and throat, and found an omen for the future.

The augural holocaust over, the priest made a general sacrifice to the Sun, which consisted of a large number of llamas and alpacas, which they beheaded, offering their hearts to the Sun, and burning the entrails of the victims until they were reduced to ashes, and the flesh was roasted and dressed, with other food.

The second principal feast, called *Situa*, was solemnized at the autumnal equinox, and was preceded by a feast, which took place the day of the new moon before the fast. The night before, they prepared in all the houses *zancus*, a portion of which was mixed with human blood, taken from children five or six years old by means of a sharp-pointed stone. A few hours before breakfast all those who had fasted washed themselves and took a little of the potion, mixed with blood, rubbing with it their whole body, in order to dissipate all infirmities. With the same material the head of each house rubbed the thresholds, leaving a part stuck there, in commemoration. In the royal palace the oldest uncle of the king performed this ceremony, and in the temples of the Sun the High Priest, and other priests, deputed for that purpose, in the other sacred houses.

Upon the rising of the sun the people assembled in the designated squares to adore the deity, entreating it to expel all evils and infirmities. Then, at an hour appointed, on the morrow, there came out of the fortress *Sacsahuaman* (at Cuzco) an Inca as a messenger of the Sun, richly arrayed, his mantle girded to his body, a lance, with a little banner of feathers, in his hand, and ran until he reached the middle of the principal square, where he was waited for by four Incas similarly clothed. Upon reaching them he touched their lances with his, telling them that the Sun commanded that they should expel from the city and its environs all ills and infirmities. At the same time the four Incas departed for the four quarters of the globe by the four royal roads which proceeded from this square, and ran a quarter of a league to a spot where others were waiting for them, already prepared to continue the service; and in this manner, their places re-occupied by fresh substitutes, they traversed the road for six leagues beyond the city in the four principal directions, the Incas keeping their lances at rest, as if to put an end to all the evils which they pretended to drive away. While they were thus running, the whole population of the city and neighboring places came out to the doors of their houses, shaking, with loud exclamations and outcries, their clothes, and rubbing their bodies with their hands, in token that they wished to tear out all the evils and give them to the Incas to be destroyed. At night, after the feast, the Indians sallied out with torches bound

around with straw and fastened by coarse ropes, and ran, shaking them, through the streets until they were out of the city, extinguishing them by throwing them into the rivulets, pretending thus to destroy all nocturnal evils.

April.—In this month began the corn harvest. *Agrihuay*, the Peruvian name for this month, signifies an ear of corn with grains of different colors. There were premiums prepared for those who met with certain colors in the grains of full ears. He who received the premium was celebrated throughout the nation.

May, or *Aymuray*.—Thus called because of the conveying of the corn to the public depositories and granaries, which took place in this month.

March 2d occurred the second principal feast of the year, preceded by three days of fasting, and it was the memorable feast of the renovation of the *sacred fire*. On the day of the equinox the Inca waited, accompanied by all the priests and chief lords of the court, at the entrance of the chief temple, for the rising of the sun, and by means of a metallic mirror concentrated its first rays, setting fire with them to a piece of sacred cotton picked and prepared for the purpose. This substance was carried while burning to the temple, where the sacrifice and offerings to the Sun were made, and afterward it furnished fire to all the houses. When the sun was obscured they obtained fire by friction.

October.—They celebrated the solemn feast of the commemoration of the dead with tears, lugubrious songs and plaintive music, and it was customary to visit the sepulchres of relations and friends, and leave in them food and drink. It is worthy of remark that this feast was celebrated among the ancient Peruvians at the same period and on the same day that the Christians solemnized the commemoration of the dead (2d of November).

In November took place the feast in commemoration of the termination of the year and the end of seed-time. A solemn day throughout the province of Cuzco was one on which the Incas and all the cavaliers of the court went out to the field and pierced the earth, after the manner of the Chinese emperors, with an instrument of gold, which corresponded to the plow. The magnates followed the example of the Inca, and this ceremony inaugurated the cultivation of the earth.

These feasts continually followed each other, so that, in a word, we may say almost half the year was passed in festivals. The offerings which the Indians presented to the Sun and other deities consisted of that which was produced both by nature and by art. The most ordinary sacrifices were of llamas, principally to the

Sun. An accurate calculation demonstrates that in the single city of Cuzco there were beheaded annually some two hundred thousand llamas in honor of the Sun. Alpacas, Vicunas and Huancas were also victims offered to the Sun or to the Huacas. The fat of all these animals formed one of the most precious objects of the offering.

At times the offering consisted of human victims. The quantity of these victims reached a very frightful number, and consisted principally of children of tender years, which they sacrificed to the Sun, and it was no unusual thing to sacrifice two hundred at one time. At the death of an Inca or a principal chief they interred with the deceased his servants and his women. It is said that at the obsequies of Huana-Capac more than one thousand men were thus sacrificed.

Their limited knowledge of astronomy did not permit the Peruvians to make any progress in navigation. In their feeble vessels, constructed of bamboo logs, a balsa—a raft with a mast, and skins of sea-wolves or mats of rushes for sails, fitted to explore the coast of their territory and interior lakes—they did not dare to launch out into the open sea. It is worthy to notice that which is referred to by Signor Castelnau, that the mat or rush sails which they made use of in the lake of Titicaca and the mode of taking them in is identical with that which is seen upon the sepulchre of Rameses III. in Thebes.*

* When Columbus, in the year 1502, arrived at the island of Guanaja, a few leagues from the coast of Honduras, his brother, Bartholomew, with two launches full of people, landed on the island, and while on shore beheld a great canoe arrive, as from a distant and important voyage. He was struck with its magnitude and contents. It was eight feet wide and as long as a galley, though formed of the trunk of a single tree. In the centre was a kind of awning or cabin of palm leaves, after the manner of those in the gondolas of Venice, and sufficiently close to exclude both sun and rain. Under this sat a cacique, with his wives and children. Twenty-five Indians rowed the canoe, and it was filled with all kinds of articles of the manufactured and natural productions of the adjacent countries. It is supposed that this bark came from the province of Yucatan, which is about forty leagues from this island.

Among the various articles in this canoe he saw utensils and weapons much superior to those, similar, which he had already found among the natives. There were copper hatchets for cutting wood, wooden swords, with channels on each side of the blade in which sharp flints were firmly fixed by cords made of the intestines of fishes. There were copper bells and other articles of the same metal, together with a rude kind of crucible in which to melt it; various vessels and utensils neatly formed of clay, of marble and of hard wood; sheets and mantles of cotton, worked and dyed of various colors; great quantities of cacao, a fruit which the natives held in great estimation, using it both as food and

CHAPTER XI.

Peru—Guaquas—Copper Axes—Temples—Fortresses—Pucaras—Burials
—Tombs—Mummies.

THE Peruvians consecrated works to posterity; the fields are full of them, either near the burgs or villages or on the plains, on the mountains, and on the hills. They liked, as the ancient Egyptians, to be buried in remarkable places, which caused the latter to build pyramids, in the middle of which were their sepulchres, where was deposited their corpse, embalmed. In the same manner the Indians, after having carried the corpse to the place where it was to repose, without interring it, they surrounded it with many stones and with bricks, with which they built for it a

money. There was also a beverage extracted from Indian corn, resembling beer. Their provisions consisted of corn-bread and roots of various kinds. The women wore mantles, with which they wrapped themselves, like the female Moors of Granada, and the men had cloths of cotton round their loins. Both sexes appeared more particular about these coverings and to have a quicker sense of modesty than any Indians Columbus had yet discovered. These circumstances, together with the superiority of their implements and manufactures, were held by the Admiral as indications that he was approaching more civilized nations. They informed him that they had just arrived from a country rich, cultivated and industrious, *situated to the west.*—IRVING.

Bartram gives the following account of the canoes and navigation of the Florida Indians in 1774:

"The town of Talahasochte is on the banks of the Little San Juan. The river at the town is about a hundred yards over, and fifteen or twenty feet deep. The town is delightfully situated on the elevated east bank of the river, the ground level to near the river, when it descends suddenly to the water. I suppose the perpendicular elevation of the ground may be between twenty and thirty feet.

"These Indians have large, handsome canoes, which they form out of the trunks of cypress trees, some of them commodious enough to accommodate twenty or thirty warriors. In these large canoes they descend the river, on trading and hunting expeditions, to the sea-coast, neighboring islands and keys, quite to the point of Florida, and sometimes across the gulf, extending their navigation to the Bahama islands and even to Cuba. A crew of these adventurers had just returned from Cuba, but a few days before our arrival, with a cargo of spirituous liquors, coffee, sugar and tobacco. One of them politely presented me with a choice piece of tobacco, which he told me he had received from the governor of Cuba.

"They deal in the way of barter, carrying with them deer-skins, furs, dry fish, beeswax, honey, bear's oil and some other things."—BAETRAM, 222-225.

kind of mausoleum, on which those who were the dependants of the defunct cast so great a quantity of earth that the mausoleum was changed to an artificial hill, which they called *guaqua*. The figure of these *guaquas* is not exactly pyramidal. It appears rather that these people had in view to imitate nature in the figure of mountains and hills. Their ordinary height was from eight to ten toises, which are twenty-three ells. Their length is from twenty to twenty-six toises, or forty-three to fifty-eight ells, by a little less in width. There are, however, some much greater. Although they find these sorts of monuments in all the country, there is nevertheless a greater quantity of them in the district of the village of Cayamba, the plains of which are all strewn with them, because these people had there one of their greatest temples, and because they regarded as sanctified all the fields in its vicinity. It is wherefore the kings and caciques of Quito wished to be buried there, and, in imitation of them, also the caciques of the neighboring villages.

The differences which are remarked in the size of these monuments give reason to believe that they were proportioned to the dignity, rank and riches of the persons buried in them, it not being doubtful that the *guaquas* of the caciques of the first order, who had under their rule a great number of vassals who assisted at their funeral, ought naturally all contribute to make for him a *guaqua* more considerable than that of a private person, who had but his family and friends to heap dirt over him. All were buried with their furniture and effects for their use, as well of gold as of copper, stones and clay. In the most of these *guaquas* they find but the skeleton of him who was buried there, the earthen vases out of which he drank chicha, which they call at present *guaguerres*, some copper axes, mirrors of inca-stone, and other like things of little value, although curious otherwise, and worthy of attention on account of their antiquity and having been made by a nation so little cultivated.

These Indian axes of copper scarcely differ from ours in their form. It appears that they performed the most of their work with these axes; since, if they are not the only trenchant instrument they had, it is that which is most commonly found among them, not having any other difference except that some are larger than others. There are some that have a round blade, and more or less long; some are crenated, others have a point on the side opposite to the blade, with a twisted handle by which they handled it. The most general material of these instruments is copper; however there are some of Gallinace stone, or of another

stone much like flint, although not so hard nor so neat. Of this stone and of that of Gallinace there are found points cut on purpose, of which they make use instead of lancets. These are the two instruments, and perhaps the only two, which have been used among them. If they have had others of them it is surprising that they have not found some of them in the great number of guaquas where they have excavated, and where they still excavate everyday.*

These copper axes were not peculiar to Peru, for Diaz in relating the voyage in which Grijalva discovered Mexico, says: "As soon as the inhabitants of Guacasualco and the neighboring districts had learned that we offered our goods for barter, they brought us all their golden ornaments and took in exchange green glass beads, on which they set a high value. Besides ornaments of gold, every Indian had with him a copper axe, which was very highly polished, with the handle curiously carved, as if to serve equally for an ornament as for the field of battle. At first we thought these axes were made of an inferior quality of gold; we therefore commenced taking them in exchange, and in the space of two days had collected more than six hundred. The inhabitants of this district were all very much pleased with us and embraced us at our departure.

"We set sail for Cuba and arrived there in the space of forty days. We were most friendly received by the governor, Diego Velasquez, who was highly delighted with the additional gold we brought him. The whole amounted to twenty thousand pesos. Some make this sum greater, some less, but one thing is certain: the crown officials only took the fifths of the last mentioned sum. When they were about to take this also of the Indian axes, which we had mistaken for gold, they grew excessively angry on finding them to be merely of a fine species of copper. Nor did this circumstance fail to produce the usual laughter at the expense of our trade of barter."†

I now return to Uloa. "After having given the description of the guaquas of these idolatrous peoples, whose usage in this respect was not less common among the inhabitants of the southern provinces of Peru, I pass to the sumptuous edifices which they have built to serve as well for their worship as to lodge their sovereigns, and serve as a barrier for their country. And although

* Uloa.

† See note page 88, chap. x. It thus appears that copper axes were used in Peru, Mexico, and Central America. It is probable that copper was the first mineral that man converted to domestic use; at least it preceded iron.

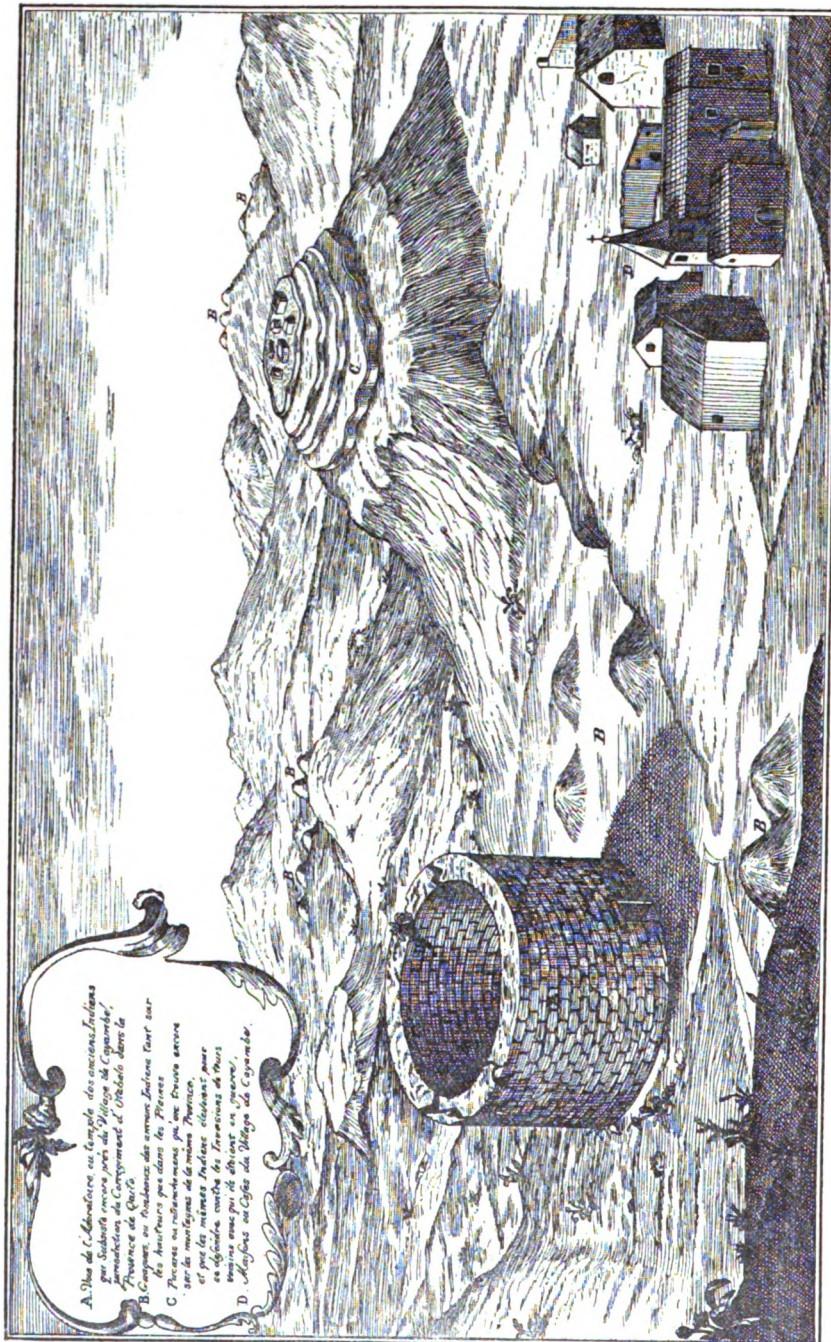
these edifices have been less magnificent in the kingdom of Quito than at Cuzco, which was the capital of the empire and the residence of the Incas, there nevertheless still remains enough of them to judge of the grandeur of the nation and of its inclination to architecture, as if they had wished to repair by sumptuousness and magnificence what they lacked on the side of science and taste.

There is still seen the greater part of one of these works in the valley of Cayamba. These are the remains of a temple [8] of unbaked brick. It is situated on an elevated land of the same village, which forms a kind of hillock. The figure of the edifice is round, about eight toises in diameter, which make eighteen or nineteen ells, by about sixty ells in circumference. There remain of this edifice but the plain walls, which still have a height of about two toises and a half, or five to six ells, by four or five feet in thickness. The bricks are united by the same earth of which they have been made, and the whole forms a wall as solid as if it were of stone, since it resists the injuries of the weather, to which it is exposed for want of a covering.

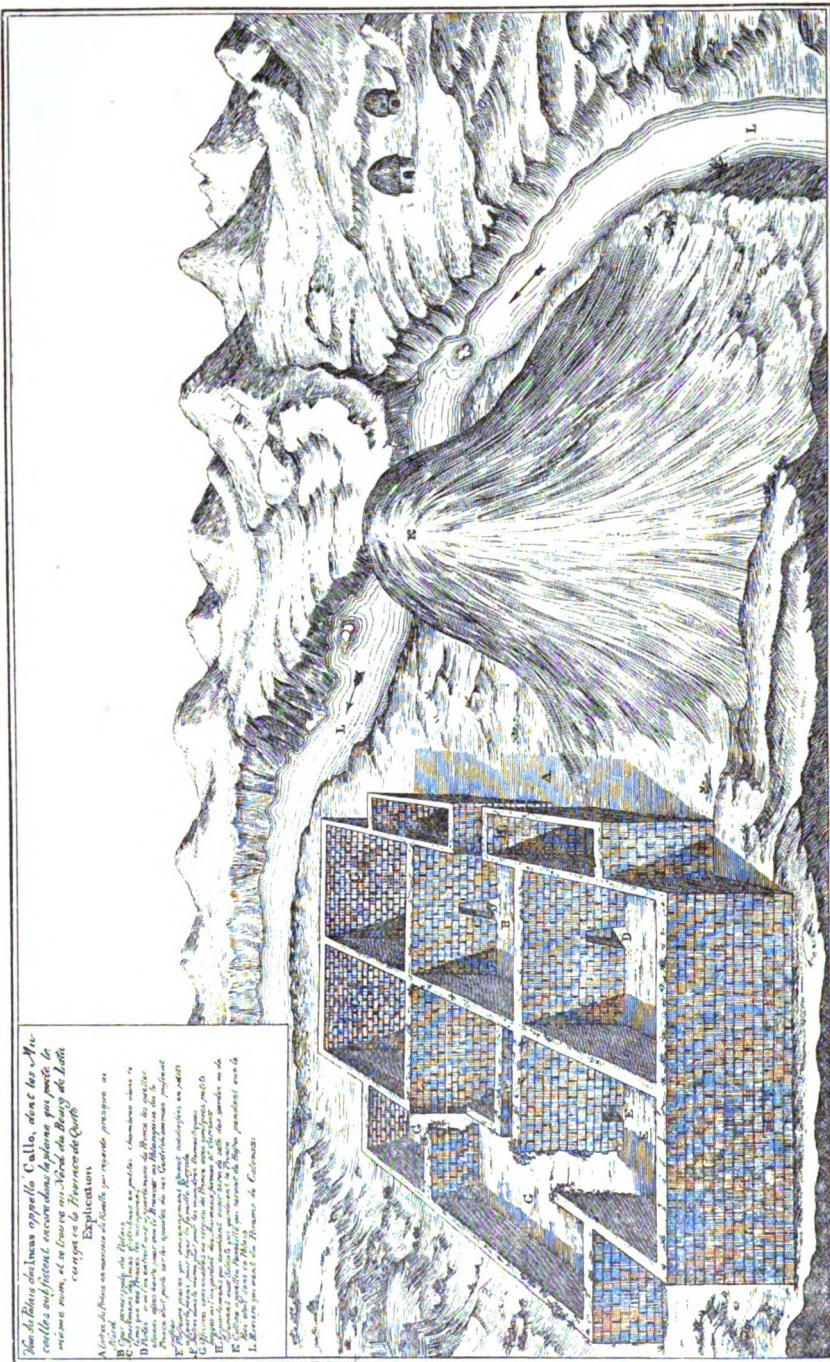
Besides the tradition by which they know that this edifice was a temple, the manner in which it is constructed does not permit a doubt of it; in fact, its round form, without any partitions within, shows sufficiently that it was a place of public assembly, and not a private dwelling. The door is very small, and gives occasion to believe that the Inca entered here on foot through respect for the place, although into their palaces and everywhere else they entered always seated on a chair. Besides, it is certain that in the vicinity of Cayamba they had one of their largest, principal temples. It seems therefore that this cannot be but it.

In the plain which extends from Latacunga towards the north there is still seen the walls of one of the palaces of the Incas and Kings of Quito, which is called Callo, [9] a name which still remains to it. There is seen in them neither the beauty nor the grandeur of the edifices of the Egyptians, the Romans or other peoples; but in regard to the limited knowledge of the Indians, and in comparison with their other habitations, we fail not to see there grandeur, sumptuousness, and finally something that announces the majesty of the monarchs who made their residence there. They enter there by an alley five or six toises long, which leads to a court around which are three great saloons, which form of it a square, occupying the three sides. In each of these rooms there are partitions, and behind that which faces the entrance there are divers little recesses which appear to have been for fuel, except one which

ADORATORIE OF CAYAMBE.



THE CALLO PALACE OF THE INCAS.



Plan du Palais des Incas s'appelle Callo, dont les Murs
coulent sud-ouest vers le plateau qui porte le
mème nom, et la rivière qui baigne la partie de la
montagne où se trouve le Palais des Incas

Explications

A. Autre débit de l'eau au niveau de l'entrée principale au
Palais des Incas. B. Autre débit de l'eau au niveau de l'entrée principale. C. Autre
débit de l'eau au niveau de l'entrée principale. D. Autre débit de l'eau au niveau de l'entrée principale. E.
Autre débit de l'eau au niveau de l'entrée principale. F. Autre débit de l'eau au niveau de l'entrée principale. G.
Autre débit de l'eau au niveau de l'entrée principale. H.
Autre débit de l'eau au niveau de l'entrée principale. I.
Autre débit de l'eau au niveau de l'entrée principale. J.
Autre débit de l'eau au niveau de l'entrée principale. K.
Autre débit de l'eau au niveau de l'entrée principale. L.
Autre débit de l'eau au niveau de l'entrée principale.

served as a menagerie, for we still see the partitions where each animal was kept. The ancient work is a little disfigured, although the principal parts still exist as they were. But in these latter times they have built habitations there, and have changed the arrangements of the apartments which were there.

This building is all of a stone which resembles, in its hardness, the flint, and of a color almost black, and so closely joined that the point of a knife cannot be inserted between them, their joints being as fine as the thinnest leaf of paper, and only appearing enough to judge that the wall is not entirely of one piece. It is seen that neither mortar nor cement joins them; that outside they are all convex, but at the entrance of the doors they are flat. There are seen inequalities not only in the ranges of stones but in the stones themselves, and it is what renders the work so much the more singular, for a small stone is immediately followed by one large and badly squared, and that on top is nevertheless accommodated to the inequalities of those there, and even to the projections and irregularities of their faces, the whole so perfect, that from all sides that we may regard them, we see them joined with the same exactness. These walls are as high as those of the temple of Cayamba, two toises and a half, by three or four feet of thickness; and the doors two toises, which make about five ells, by three or four feet wide below, and gradually narrow to the top to two feet and a half. They gave to them this excessive height that the monarch might pass there in his chair, the shafts of which were borne upon the shoulders of the Indians; and that he might enter, in this manner, his apartment, which was the only place where he walked. We are ignorant whether this palace and others of the same kind had a story above the ground floor, and in what manner they were covered. Those which we examined either had no roof or had been covered by the Spaniards; it appears, however, certain that their roofs were flat, and made of wood, supported by beams which extended from one wall to another. There were no marks on the principal walls that could cause a belief that they had sustained the wood-work. On these roofs, thus made flat, they formed, apparently, some inclination for the water to flow off. The reason why they narrowed their doors above is, that they had not any knowledge of the use of arches; and that they were obliged to make the lintels of their doors of a single stone; and as they had not any idea of a vault, nor of the cutting of stones which served as a key to the vault, they have not found among their works anything that was arched or made like an arch.

About fifty toises from this palace, towards the north, on which

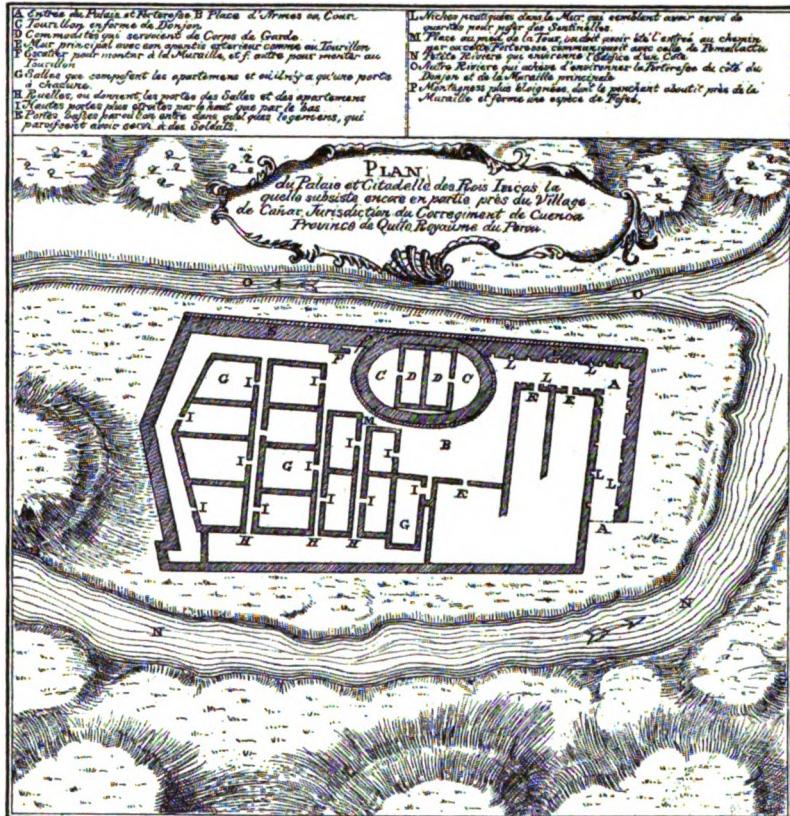
side is the door, there is a hill, called Panecillo de Callo, in the middle of the plain, which appears quite extraordinary; it is twenty-five or thirty toises, or fifty-eight to seventy ells high. It is round, like a sugar-loaf, so even on all sides that they believed it artificial, and so much the more so as the bottom of its slope takes on all sides perfectly the form of the same angle with the earth on which it is. They believe that it is a monument where lies some Indian of distinguished rank, and this opinion is so much the more probable, as they were much inclined to raise *guaquas*, when the occasions presented themselves for doing so; they add also that the earth has been taken from a neighboring ravine through which flows a little river, at the foot of the hill on the north side, but there is not any proof of that. It may be, also, that this hill has been nothing more than a watch-tower to discover what was passing in the country, and to be able to put the prince in safety at the first alarm of the unexpected attack of any hostile nation, which happened very often.

To the northeast of the village of Atun Cannar, or Great Cannar, about two leagues distant, is a fortress and palace of the Incas [10]. It is the most complete, and the greatest and best built of all this kingdom. On the side by which they enter it there passes a little river, which serves it for a fosse, and on the opposite side it rises over a hill, by a high wall, which, as well as the slope of the hill, makes the approach to it difficult. In the middle is a tower-like building of oval shape, which rises from the interior ground-plot of the edifice to the height of one and a half or two toises, but on the exterior side it rises above the hill six or eight toises. In the middle of the *tourillon* rises a square, in the manner of a donjon, formed by four walls, the angles of which touch the circumference of the oval, and closes the passage between the two. In the middle of the donjon there are two small separate rooms, into which they enter by a door opposite the space which separates them. These two closets are kinds of sentry-boxes, having little windows, through which the sentinel has a view over the country, and the tourillon itself serves as a guard-house.

From the side of the exterior surfaces of the tourillon the wall of the fortress extends about forty toises to the left and twenty-five toises to the right. This wall then turns and forms divers irregular angles enclosing a spacious plot of ground. They enter there but by a single gate opposite the tourillon, and very near the little ravine which serves as a bed to the river. From this door they enter a narrow alley where two persons can hardly pass abreast, and which leads directly to the opposite wall, where it turns



THE PALACE AND CITADEL OF THE INCAS.



GROUND PLAN.

towards the tourillon, remaining still the same width, and from there continuing to incline towards the ravine, and enlarging, it forms an open space before the tourillon. All along this alley they have at every three paces formed in the thickness of the wall of the fortress niches, in the fashion of sentry-boxes, and in the interior wall, which forms the alley, two doors, which serve to enter two separate apartments, which appear to have served as barracks for soldiers of the garrison. In the interior enclosure, to the left of the tourillon, were divers apartments, the height, doors and distribution of which show sufficiently that it was the palace of the prince. In all these apartments there are recesses, in the manner of armoires, the same as the two closets of the tourillon. The niches of the alley and the donjon have stones projecting six or eight inches by three or four in diameter, which served, probably, to hang the arms used by these peoples.

All the principal wall, which is on the slope of the hill, and which descends laterally from the tourillon, is very thick and steep on the outside, with a platform within, and a parapet of ordinary height. In order to ascend to the platform of the rampart, which ranges all around, there is but one stair, near the tourillon. All these walls, both within and without, are of a stone as hard, as polished and as well joined as those of Callo. The same as in the palace, all the apartments are uncovered, and without floor or mark of having had one.

There are found many other walls and ruins in all this country, as well on the plains as on the heights, but particularly in desert places, without any vestige of a town or other habitable place. They are all, with the exception of the three of which we have just spoken, of sun-baked brick or of ordinary stones of masonry, which causes a belief that it is the work of Indians before they had submitted to the Incas; whereas the walls of Callo and of the two fortresses which we have just mentioned were built since, and after the best ideas that these princes could furnish them. The same in regard to the government and policy, introducing the arts with their laws among all these peoples whom they reduced to their obedience. The Indians give to all these remains of ancient edifices the name *Inca-Perca*, which signifies *Inca walls*.

The people had another manner of fortifying themselves, of which there remain some vestiges. It was to dig a trench entirely around a mountain steep and elevated, not quite to the freezing degree, but nevertheless very high; and to make there three or four redans at some distance from one another, within which they raised a small wall, breast high, to shelter themselves from the

enemy, and repulse him with less danger to themselves. They gave to these fortifications the name *Pucaras*. At the bottom of these ditches they built houses of unbaked brick or of stone, which served as apartments to lodge the soldiers destined to guard these posts. Fortifications of this kind were so common that there are few mountains where they are not found on their tops. On Pambamarca there are three or four of them, one of which was on the height where we had placed the signal for the measure of our meridian, and we found some upon all the other mountains.

We noticed sometimes that the first ditch was so spacious in its circumference that it formed a circumvallation of more than a league; each ditch had always, everywhere, the same depth and the same width. They differed, nevertheless, some in regard to the others. There were some that had two toises in width, and others that were less than one. Besides, they were always made so that the interior border was higher than the exterior by at least three or four feet, so as to have more advantage over the assailants.*

The deceased Incas were deposited in the principal part of the Temple of the Sun, in Cuzco, embalmed and covered with their regalia dresses, with a rich sceptre in their right hand. The *Coya*, or empress, was also embalmed and deposited in that part of the temple dedicated to the Moon.

The kings of Quito, or Scyris, were buried in a very large sepulchre made of stones, in a quadrangular or pyramidal form, so covered with pebbles and sand that it formed a miniature hill. The door faced the east, was closed with a double wall, and only opened upon the death of one of them. We found in them embalmed corpses arranged in order, with their royal insignia, and the treasures which the monarch had ordered should be interred with him. Over each one of them was found a cavity or niche where was found a hollow figure of clay, stone or metal, within which were small stones of divers colors and shapes, which denoted his age, the years and months of his reign.

The manner of burying the vassals was very different, and varied in each province. In some parts, principally at the south, the cavaliers of royal blood, curacas and other magnates, were deposited in large vases of gold and silver, in the form of urns, hermetically sealed, which were found arranged in meadows, woods

* "Voyage Historique de L'Amerique Meridionale," par Don George Juan et par Don Antoine de Ulloa.

and forests, as Gomera relates. We regret that we have not met with a single one of these urns, which were found in such abundance by the Spaniards, and of which we know nothing, not even the shape. Cieza de Leon says: "In order that the sepulchre should be made magnificent and spacious they adorned them with pavements and vaults, and put in with the deceased all his chattels, wives and servants, and a large quantity of food, and numerous pitchers of chicha, or wine, such as they were in the habit of using. And many of his servants, that he might not fail of attendants in another world, made holes in the grounds and fields of their master or lord, now dead, or in those places where he most enjoyed and feasted himself, and there they buried themselves, thinking that his soul would pass through these places and take them along for his future use or service. And some of his women, to give to his burial more importance and to remain in his service, would, even before his interment, hang themselves by their hair and so kill themselves."

On the western declivity of the Cordilleras they used sepulchres in the form of ovens, made of adobes, and in the Sierra they were constructed of stones, square or oval, or in the form of obelisks, as in the Punas of southern Peru, in the vicinity of the river Chucana, and between Pisacoma and Pichu-Pichu.

A large number of the tombs are enclosed by flat stones one or two yards in height. The sepulchres built of adobe or stones, always contained the corpses of the principal families. The plebeian families were arranged in rows, or formed in a semicircle, in caves, fissures of rocks, or terraces formed of rocks. Sometimes they were buried in holes, around which the Indians heaped stones.*

In whatever way they were buried, the ancient Peruvians arranged the corpses in a drawn-up posture, the face turned towards the west, with provisions of chicha, corn, etc., deposited in round earthen pots and other vases, that they might find food to sustain them. In the walls of the sepulchres which are made without doors, are found certain holes and conduits which lead from the surface outside to vases within; into these they empty the chicha on those fast-days which they solemnize in honor of their malquis.

The corpses as they appear in the sepulchres are found enveloped in much cloth, and, as it were, bundled up. We will describe them as we found them in more than fifty mummies which we have uncovered. At first sight we distinguish nothing more

* "Many of these tumuli are similar to those which are found in Asia and in North America."

than what seems a coarse statue, seated, in which nothing is visible but a round head, two knees, and two feet of large appearance; a strong net of coarse thread, with meshes sufficiently wide, is bound closely over a coarse mat of rushes, in which the corpse is wrapped. In the sepulchres of higher Peru are found mummies in mats of *totoza* (a particular species of rush on Lake Titicaca), in shape very similar to beehives, with a square aperture at the side of the face. On removing the mat you find a large roll of cotton, which envelopes the whole body from end to end, and secures two reeds or canes to the sides, and sometimes also a stick across the shoulders. After removing this roll, is seen a cloth of wool, red or parti-colored, which completely envelopes the mummy, at the lower part of which are one or two cloths of cotton, like sheets, fastened firmly, as the cloth is, around the corpse. Under these we find some small vases, ornaments, the *hualqui* with the coca, and, in the greater part of the mummies, a *canopa* of stone, clay, silver or gold, hanging from the neck. The internal covering is a cotton cloth, quite fine, probably white originally, but tinged with a reddish-yellow by time, and sewed like the other coverings. This being removed, the corpse is seen naked, only the head enveloped in two or three rolls, the upper one of which is of a fine web, and almost always with threads of divers colors. The under one is narrower and thicker, sometimes made of rushes only, but ordinarily of a yellowish cotton.

The position of the corpse is squatting; raising the knees to the chin, the arms are crossed over the breast, or supporting the head, so that the fists touch the jaws. The hands are generally fastened, and in most of the mummies there is a coarse rope passed three or four times around the neck, and we also see a stick which passes from the ground between the legs to the throat, and which serves to support the corpse more firmly. In the mouth is always found a small disk of copper, silver or gold.* The greater part of the corpses were sufficiently well preserved, but the flesh was shriveled and the features disfigured, the hair always perfectly preserved, that of the women artificially braided, but the black pigment or coloring matter had lost more or less of its primitive color and had become reddish.

There is no doubt that the art of embalming was known to the Peruvians, but probably only to a certain class of Incas, who, holding it as a secret, exercised it upon the corpses of the kings

* This remarkable coincidence with the mummies of Egypt is deserving of consideration.

and their legitimate wives only. It is certain that the corpses of the kings were incomparably better preserved than the others, in consequence of certain means used, and the assertion that this was a secret of the royal family is founded on the fact that there have been found no other artificial mummies than those of the kings and queens. Neither do we know what means the masters used to embalm them, nor what substances they used to avoid putrefaction and give a certain flexibility to the skin. To obtain a knowledge of this it would be necessary to submit one of these mummies to a chemical analysis. It is generally believed that the other mummified corpses, which are found by millions, as well on the coast as on the mountains, had been also embalmed, but it is a serious error, they being only natural mummies. On the coast the heated soil and calcined sand dry the corpses, and in the interior the pure cold air and the dry winds do the same thing. A corpse placed in a cave of the Sierra or in the sandy ground of the coast, under shelter from the voracity of the birds, will, in either case, be found at the end of months entire, not corrupted, but dried.*

CHAPTER XII.

Mexico—Aztec Migration—Teocallis—The Great Temple of Mexico—Mexicans Cannibals—The Teocalli of Cozumel—Of Sempoalla—The Victims of Sacrifice—The Teocallis of Cholula—Their Destruction—The History of Cholula—Its Great Temple—Teocallis as Forts—The Capture of the Great Temple of Mexico—The Capture of the Teocallis of Sempoalla.

THE Aztecas, or Mexicans, who were the last people who settled in Anahuac, lived until about the year 1160 of the vulgar era in Aztlan, a country situated to the north of the Gulf of California, according to what appears from the route they pursued in their migration. Betancourt makes Aztlan twenty-seven hundred miles distant from Mexico. Boturini says Aztlan was a province of Asia. In several charts, published in the sixteenth century, this country appears situated to the north of the Gulf of California, and I do not doubt that it is to be found in that quarter, though at a distance from the gulf, as the distance mentioned by Betan-

* When Almegro invaded Chili, in passing over the highest mountains on the coast, some of his men on horseback were frozen—horse and man. Some months afterwards the horses and riders were found as they had been frozen.

court seems very probable. The migration of the Aztecas, which is certain, happened, as near as we can conjecture, about the year 1160 of the vulgar era. Torquemada says he has observed an *arm of the sea*, or a great river, represented on all the ancient paintings of this migration. I believe this *pretended arm of the sea* was no other than those representations of the universal deluge painted in the Mexican pictures before the beginning of their emigration. Boturini alleges this arm of the sea to be the Gulf of California, as he is persuaded that the Mexicans passed from Aztlan to California, and from thence, crossing the gulf, transported themselves to Culiacan; but there being found remains of buildings, constructed by the Mexicans, in their migration, on the river Gila, and in Pimeria, and not in California, there is no reason to believe that they crossed the sea, but came by land to Culiacan.*

Having crossed the Colorado river, they proceeded as far as the river Gila, where they stopped for some time, and where there are still remains of great edifices built by them on the borders of that river. From thence, having resumed their course towards the south-southeast, they stopped in about the twenty-ninth degree of north latitude, at a place, which is more than two hundred and fifty miles from the city of Chihuahua, towards the north-north-west, known by the name of Case Grande, on account of an immense edifice which, agreeably to the universal tradition of these people, was built by the Mexicans in their peregrinations. From hence, traversing the mountains of Tarahumara, and directing their course towards the south, they reached Huiecolhuacan, at present called Culiacan, situated on the Gulf of California. Here they formed a statue of wood, representing Huitzilopochtli, the titulary deity of the nation, and made a chair of reeds and rushes, called *Teoupalli*, a Chair of God, to transport it in. They choose priests who were to carry him on their shoulders, four at a time, to whom they gave the name *Teotlamacazque*, servants of God, and the act itself of carrying him was called *Teomama*, that is, to carry God on one's back.

From Huiecolhuacan they came to Chicomoztoc, where they stopped. Hitherto all *the seven tribes* had travelled in a body together; but here they separated, and the Xochimilcas, Tepanecas, Chalchese, Tlahuicas and Tlascalans proceeded onwards, leaving the Mexicans there with their idol. The situation of Chicomoztoc, where the Mexicans sojourned nine years, is not known; but it appears to be that place twenty miles distant from the city of Za-

* The above embraces text and notes from Clavigero's "History of Mexico."

catecas, towards the south, where there are still some remains of an immense edifice, which, according to the tradition of the Zácatecas, the ancient inhabitants of that country, was the work of the Aztecas in their migration. Finally, in the year 1196 they arrived at *the celebrated city of Tula*, which is confirmed by a manuscript history in Mexican, cited by Botourini, and in this point of chronology other authors agree.

In Tula they stopped nine years, and afterwards in other places eleven years, until, in 1216, they arrived at Zampanco, a considerable city in the vale of Mexico. After remaining seven years in Zampanco they went to Tizayocan, whence they went to Tolpetlac and Tepeyacac, both situated on the borders of Lake Tezcoco; but those in Tepeyacac, being harassed by a Chechemecan cacique, were forced, in 1245, to retire to Chapoltepec, a mountain situated on the western borders of the lake, hardly two miles distant from the site of Mexico. The persecutions which they suffered in this place from some chiefs made them, at the end of seventeen years, abandon it, to seek a more secure asylum in Acocolco, which consisted of a number of small islands at the southern extremity of the lake.

Finally, the Mexicans having returned to Huitzilopochtli, they erected there an altar to their tutelary god. The day of the consecration the king of Colhua and his nobility failed not to be present, not to honor the festival, but to make a mockery of it. The Mexicans brought out four prisoners, and, after having made them dance a little, sacrificed them upon a stone, breaking their breasts with the knife of *itzil*, and tearing out their hearts, which, while yet warm and beating, they offered to their god.

This human sacrifice, the first of the kind which we know to have been made in this country, excited such horror in the Colhuas, that the king sent orders to the slaves (the Mexicans) to depart immediately out of that district, and go wherever they pleased.* The Mexicans willingly accepted their discharge from slavery, and directed their course northward, and came to *Acatzintlan*, a place situated between two lakes, named afterwards Mexicalzinco, which name is almost the same as that of Mexico, but not finding, in that situation, the conveniences they desired, they proceeded to Iztacalco.

After having sojourned two years in Iztacalco, they finally came to that situation on the lake where they were to found their

* "Slave" and "prisoner" were synonymous with the Indians, and as it was customary for these to adopt prisoners, and for weak tribes to incorporate themselves with stronger ones, it is probable that the Mexicans, in this case, were an incorporated tribe, or adopted prisoners.

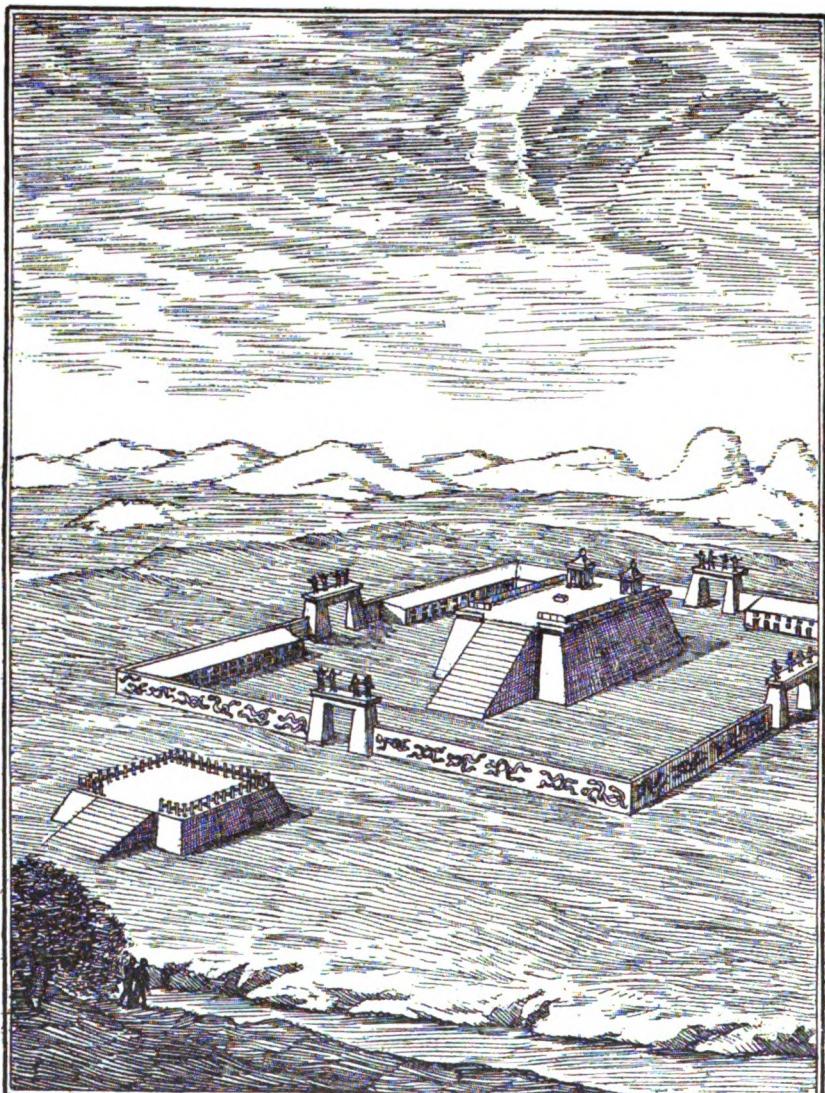
city. There they found a nopal or opunta growing in a stone, and over it the foot of an eagle. On this account they gave to the place, and afterwards to the city, the name Tenochtitlan. All the historians of Mexico say this was the precise mark given them by their oracle for the foundation of their city. There is a great difference of opinion, among authors, respecting the etymology of the word Mexico. Some derive it from *Mitzli*, moon. But Mexico signifies the place of Mexitli or Huitzilopochtli, that is the God of War, or Mars of the Mexicans, on account of the sanctuary there erected to him. The Mexicans take away the final syllable *tli* in the compounding of words of this kind. The *co* added to it is the preposition *in*. The word Mexicatzinco means the place of the house or temple of the god Mexitli, so that Huitzilopocho, Mexicatzinco, and Mexico, the names of the three places inhabited by the Mexicans, mean the same thing, in substance.*

A particular description of the great temple or *teocalli* (*teo*, god—*calli*, house) of the City of Mexico will convey a correct idea of all the principal structures of this kind in Mexico.

These teocallis were in different places constructed of different materials—stone, brick, or earth; some had ramps, with steps leading directly to the top, where, in small sanctuaries, were the idols to which they sacrificed human beings on a stone in front of the sanctuary, ripping out the heart of the living victim and presenting it on the altar of the god. Others had three or four terraces, each extending the circuit of the teocalli, excepting the space occupied by the steps. The stairs to ascend from one terrace to another were all at the same side and angle of the teocalli, so that it was necessary to make the circuit of the teocalli to pass from one flight of steps to the next. These structures were inclosed with a wall, at a sufficient distance from the temple to form around it a commodious rectangular court, in the middle of the four sides of which was a gate.

These structures were not peculiar to Mexico. They are found at Cahokia, in Illinois; at Selzertown, in Mississippi; at Macon and near Cartersville, in Georgia; besides, in all probability, at many other places, as at the great mounds of Marietta, Ohio; of Grave Creek, Virginia; of New Madrid, Missouri; of Trinity, Louisiana; of Bolivar County, Mississippi; on the Savannah river, opposite Silver Bluff; on the upper branches of the Savannah river, etc., etc. And this appears confirmed by the arrangement of these mounds, which indicate that they were of the same origin and destiny as the teocalli. This probability is still fur-

* Clavigero.



TEMPLO mayor de MEXICO dedicado al Dios de
la Guerra



ther confirmed by the costume of the mummies discovered in Tennessee and in Kentucky, which showed that the inhabitants of that time were dressed as the Mexicans.

The following is a description of the great temple of ancient Mexico, made from the accounts of it by Diaz, De Solis and Clavigero.

Bernal Diaz thus describes the great teocalli of the City of Mexico :

" We had already been four days in the City of Mexico. Cortes now determined to view the city, and visit the great market and the chief temple of Huitzilapochtli [11]. Montezuma resolved to accompany us himself, with some of his principal officers. Having arrived at a spot about half-way between his palace and a temple, he stepped out of his sedan, as he would have deemed it a want of respect towards his gods to approach them any otherwise than on foot. He leant upon the arms of the principal officers of his court; others walked before him, holding up on high two rods having the appearance of sceptres, which was a sign that the monarch was approaching. He, whenever he was carried in his sedan, held a short staff in his hand, one-half of gold and the other half of wood. In this way he came up to the temple, which he ascended with many *papas*.* On reaching the summit he immediately began to perfume Huitzilapochtli, and perform other ceremonies.

" Our commander had proceeded to the Tlatclulco (the great market-place of ancient Mexico).

" On quitting the market-place we entered the spacious yards which surround the chief temple. These appeared to encompass more ground than the market-place of Salamanca, and were surrounded by a double wall constructed of stone and lime. These yards were paved with large white flag-stones, extremely smooth, and where those were wanting a kind of brown plaster had been used instead, and all was kept so very clean that there was not the smallest particle of dust or straw to be seen anywhere.

" Before we mounted the steps of the great temple, Montezuma, who was sacrificing on the top to his idols, sent six *papas* (priests) and two of his principal officers to conduct Cortes up the steps. There were one hundred and fourteen steps to the summit. When we had reached the summit of the temple we walked across the platform, where many large stones were lying, on which those who were doomed for sacrifice are stretched out. Near there

* *Papa*, priest, father, probably was a name given to them by Diaz.

stood a large idol, in the shape of a dragon, surrounded by various other abominable figures, with a quantity of fresh blood lying in front of it. Montezuma himself stepped out of a chapel in which his cursed gods were standing, accompanied by two *papas*, and received Cortes and the whole of us very courteously.

"This infernal temple, from its great height, commanded a view of the whole surrounding neighborhood. From here we discovered that the only communication of the houses in this city and of all the other towns built in the lake was by drawbridges or canoes. In all these towns the beautiful white-plastered temples rose above the smaller ones, like so many towers and castles in our Spanish towns; and *this*, it may be imagined, was a splendid sight. On this occasion Cortes said to Father Olmedo, 'I have just been thinking that we should take this opportunity and apply to Montezuma for permission to build a church here.' To which Father Olmedo replied, 'That it would be acting over-hasty to make a proposition of that nature to him now.'

"Cortes then turned to Montezuma and said to him, by means of our interpreter, Dona Marina: 'I have now one favor to beg of you, that you would allow us to see your gods and *teules*.' To which Montezuma answered that he must consult his chief *papa*, to whom he then addressed a few words. Upon this we were led into a kind of small tower, with one room, in which we saw two basements, resembling altars, decked with coverings of extreme beauty. On each of these basements stood a gigantic, fat-looking figure, of which the one on the right hand represented the god of war, Huitzilopochtli. This idol had a very broad face, with distorted and furious-looking eyes, and was covered all over with jewels, gold, and pearls, which were stuck to it by means of a species of paste. Large serpents, likewise covered with gold and precious stones, wound round the body of this monster, which held in one hand a bow, and in the other a bunch of arrows. Another small idol, which stood by his side, representing its page, carried this monster's short spear and its gold shield, studded with precious stones. Around Huitzilopochtli's neck were figures representing human faces and hearts, made of gold and silver, and decorated with blue stones. In front of him stood several perfuming-pans with copal, the incense of the country; also the hearts of three Indians, who had that day been slaughtered, were now consuming before him, as a burnt-offering. Every wall of this chapel and the whole floor had become almost black with human blood, and the stench was abominable.

"On the left stood another figure of the same size as Huitzilo-

pochtli. Its face was very much like that of a bear ; its shining eyes were made of tetzcat, the looking-glass of the country. This idol, like his brother Huitzilopochtli, was completely covered with precious stones, and was called Tetzcatlipuca. This was the god of hell,* and the souls of the dead Mexicans stood under him. A circle of figures wound round his body, representing diminutive devils with serpents' tails. The walls and floor around this idol were also besmeared with blood, and the stench was worse than a Spanish slaughter-house. Five human hearts had that day been sacrificed to him. On the very top of this temple stood another chapel, the wood-work of which was uncommonly well finished and richly carved. In this chapel there was also another idol, half-man and half-lizard, completely covered with precious stones. Half of this figure was hidden from view. We were told that the hidden half was covered with the seeds of every plant of this earth, for this was the god of the seeds and fruits. I have, however, forgotten its name, but not that everything here was also besmeared with blood, and the stench so offensive that we could not have stayed there much longer. In this place was kept a drum of enormous dimensions, the tone of which, when struck, was so deep and melancholy that it has very justly been denominated the drum of hell. The drumskin was made out of that of an enormous serpent ; its sound could be heard at the distance of more than eight miles. This platform was covered with a variety of hellish objects—large and small trumpets, huge slaughtering-knives, and burnt hearts of Indians who had been sacrificed—everything, clotted with coagulated blood, cursed the sight and created horror in the mind. Besides all this, the stench was everywhere so abominable that we scarcely knew how soon to get away from this spot of horrors. Our commander here said to Montezuma, ‘Allow me to erect a cross on the summit of this temple and in the chapel where stand your Huitzilopochtli and Tetzcatlipuca ; give us a small space, that I may place there the image of the holy Virgin ; then you will see what terror will seize these *idols*, by which you have been so long deluded.’

“Montezuma knew what the image of the Virgin Mary was, yet he was very much displeased with Cortes' offer, and replied, in presence of two *papas*, whose anger was not less conspicuous : ‘I earnestly beg of you not to say another word to insult the profound veneration in which we hold these gods.’

* It will be seen hereafter that the character of this god is differently represented by Clavigero, who makes him the god of Providence, the Supreme Being, the Greatest of Gods.

"As soon as Cortes heard these words and perceived the great excitement under which they were pronounced he said nothing in return, but merely remarked to the monarch, 'It is time for us both to depart hence.' To which Montezuma answered that he would not detain him any longer, but he himself was now obliged to stay some time, to atone to his gods for having allowed us to ascend the great temple, and thereby occasioning the affronts which we had offered them. 'If that is the case,' returned Cortes, I beg your pardon, great monarch.' Upon this we descended the one hundred and fourteen steps.

"If I remember rightly, this temple occupied a space of ground on which we could have erected six of the largest buildings, as they are commonly found in our country. The whole building ran up in rather a pyramidal form, on the summit of which was the small towers with the idols. From the *middle of the temple* up to the platform there were *five landings*, after the manner of barbacans, but without any breastworks. The following is what I learned respecting the building of this temple. Every inhabitant had contributed his mite of gold, silver, pearls, and precious stones thereto. These gifts were then buried in the foundations, and the ground sprinkled with the blood of a great number of prisoners of war, and strewed with the seeds of every plant of the country. This was done that the god might grant the country conquests, riches, and abundant harvests. Subsequent to the conquest of this large and strongly fortified city we found it to be a positive fact, for when new buildings were being erected on the place where the temple stood a great part of the space was fixed upon for the new church dedicated to our patron saint, Santiago, the workmen, in digging up the old foundations to give more solidity to the new ones, found a quantity of gold, silver, pearls, chalchihuis stones, and other valuable things.* A similar discovery was made by a citizen of Mexico, to whom also a portion of this space had been allotted for building-ground. Besides all this, the accounts of the caciques and grandees of Mexico, and even of Guatamozin himself, who was alive at that time, all corres-

* Bernal Diaz, the last survivor of the followers of Cortes, or at least of the conquerors of Mexico, was, or endeavored to be, truthful in his "History of the Conquest of Mexico," and here gives evidence of it, for this event is mentioned as he says, and related by Clavigero. It is hardly possible to make the different accounts of this temple conform with the movements and assaults of the Spaniards when they captured it, and yet this temple was the grandest and most public edifice in the city. The Temple of Jerusalem, built 2899 years ago, is better known than this Temple of Mexico.

pond with my statement. Lastly, it is also mentioned in the books and paintings which contain the history of the country.*

"With respect to the extensive and splendid courtyards belonging to this temple, I have said sufficient before. I cannot, however, pass by in silence a kind of small tower standing in its immediate vicinity, likewise containing idols. I should term it a temple of hell, for at one of its doors stood an open-mouthed dragon, armed with huge teeth, resembling a dragon of the infernal regions, the devourer of souls. There also stood near this same door other figures resembling devils and serpents, and not far from this an altar, encrusted with blood, grown black, and some that had recently been spilt. In a building adjoining this we perceived a quantity of dishes and basins of various shapes. These were filled with water, and served to cook the flesh in of the unfortunate beings who had been sacrificed, which flesh was eaten by the *papas*. Near to the altar were lying several daggers and wooden blocks, similar to those used by our butchers to hack meat on. At a pretty good distance from this house of horrors were piles of wood, and a large reservoir of water, which was filled and emptied at stated times, and received its supply through pipes under ground from the aqueduct of Chapultepec. I could find no better name for this dwelling than the house of Satan.

"I will now introduce my reader into another temple, in which the grandees of Mexico were buried, the doors of which were of a different form, and the idols were of a totally different nature, but the blood and stench were the same.

"Next to this temple was another, in which human skulls and bones were piled up, though both apart; their numbers were endless. This place had, also, its appropriate idols, and in all these temples we found priests clad in long black mantles, with hoods shaped like those worn by the Dominican friars and choristers. Their ears were pierced, and the hair of their head was long, and stuck together with coagulated blood.

"Lastly, I have to mention another temple, at no great distance from this place of skulls, containing another species of idol, who was said to be the protector of the marriage-rites of men, to whom likewise those abominable human sacrifices were made. Round about this large courtyard stood a great number of small houses, in which the *papas* dwelt who were appointed over the ceremonies

* If some skilful diver, with modern appliances, should examine the bed of Lake Titicaca, in Peru, he would find an immense treasure there, where Peruvian votaries for centuries deposited their valuable offerings, by casting them into the lake at a particular place.

of the idol worship. Near to the chief temple we also saw an exceedingly large basin or pond filled with the purest water, which was solely adapted to the worship of Huitzilopochtli and Tetzcatlipuca, being also supplied, by pipes under ground, from the aqueduct of Chapultepec. There were also other large buildings in this neighborhood, after the manner of cloisters, in which great numbers of the young women of Mexico lived secluded, like nuns, until they were married. These had also two appropriate idols in the shape of females, who protected the marriage-rites of women, and to whom they prayed and sacrificed, in order to obtain from them good husbands.

"Although this temple on the Tlatclulco was the largest in Mexico, yet it was by no means the only one, for there were numbers of other splendid temples in this city. I have to remark that the chief temple at Cholula was higher than that of Mexico, and was ascended by one hundred and twenty steps; also the idol at Cholula stood in greater repute, for pilgrimages were made to it from all parts of New Spain, to obtain forgiveness of sins. The architecture of this building was also different, but with respect to the yards and double walls they were alike. The temple of the town of Tetzcuco was also of considerable height, being ascended by one hundred and seventeen steps, and had broad and beautiful courtyards equal to those of the two last mentioned, but differently constructed. Each province and every town had its own peculiar idols, which, however, never interfered with each other, and the inhabitants severally sacrificed to them.

"Cortes, and the whole of us, at last, grew tired at the sight of so many idols and implements used for these sacrifices, and we returned to our quarters accompanied by a great number of chief personages and caciques, whom Montezuma had sent for that purpose.*

"The idol temples were called *cues*, and were as numerous as the churches, chapels and monasteries of Spain. Every township had its own temples, which were filled with demons and diabolical figures. Besides these, every Indian, man and woman, had two altars, one near to where they slept, and the other near the door of the house. *In some provinces circumcision took place.*

"The Indians ate human flesh in the same way that we do that of oxen, and there were large wooden cages in every township, in which men, women and children were fattened for their sacrifices

* Bernal Diaz, "Conquest of Mexico," translated from the original Spanish, by John Ingram Lockhart, F.R.A.S.

and feasts.* In the same way they butchered and devoured all the prisoners they took during war time. The head, arms and legs were cut off, and, with the exception of the head, eaten at their banquets. No other part of the body was eaten, but the remainder was thrown to the beasts, which were kept in their abominable dens, in which there were also vipers and other poisonous snakes; and among the latter, in particular, a species at the end of whose tail there was a kind of rattle. This last-mentioned serpent, which is the most dangerous, was kept in a cabin of diversified form, in which a quantity of feathers had been strewn; here it laid its eggs, and it was fed with the flesh of dogs and of human beings who had been sacrificed."†

The first mention of a teocalli is made by Diaz in his account of the voyage of Grijalva in the year 1518, when he discovered Mexico. This account is in his "Discovery and Conquest of Mexico," where he says: "Grijalva arrived at an island (San Juan d'Ulloa) about two miles from the continent, where they found a temple on which stood the great and abominable-looking god Tetzcatlipuca, surrounded by four Indian priests dressed in wide black cloaks and with flying hair, who had that very day sacrificed two boys, whose bleeding hearts they had offered to the horrible idol."

The Temple of Cozumel,‡ so revered by the Indians, was not far from the coast. It was of a square form, built of stone, and of an architecture not contemptible. The idol had the form of a man, but of an air so terrible and so hideous that it was easy to recognize in it the features of its original. All the idols adored by these wretched people had the same character of countenance; for although they might be different in material and construction, and for representation, they all resembled each other in their abomina-

* When Geronimo d'Aguilar, about 1511, was wrecked on his way from Darien to St. Domingo, and his boat carried by the current to Yucatan, he and those with him were seized by Indians and confined in a bamboo cage, to be fattened and sacrificed, at the feasts, to the Indian idols, Aguilar and Alonso Guerrero, a sailor, remaining the last to be sacrificed. Guerrero one night succeeded in extracting one of the bamboos, and he and his companion escaped. How singularly *providential* appears this adventure of Aguilar, who, after having lived eight years among the Indians, Cortes received at Cozumel, and had for his interpreter during his conquest of Mexico.

† In regard to this poisonous rattlesnake laying eggs, it is said that snakes not poisonous lay eggs, while poisonous snakes are viviparous. I shot a cotton-mouth snake, which is one of the most poisonous kind. The shot tore its body open, and out crawled four or five young snakes five or six inches long.

‡ Cozumel, an island between Cuba and Yucatan.

ble ugliness. The greatest effort of the skill of the workman consisted in the expression of the most hideous figure.

It is said that this idol was named Cozumel, and that it had given to the island the name which it still preserves. When the Spaniards arrived at this temple they found a great concourse of Indians there, and in the midst of them a priest whose equipage was different from that of the others by a certain ornament or kind of covering which hardly concealed his nudity. It seemed that he was preaching, or that he wished to persuade them of something, by the tones of his voice or very ridiculous gestures, for he gave himself the air of a preacher with all the gravity and authority that a man could have who showed all that even nature commanded him to conceal. Cortes interrupted him, and, turning to the cacique, told him, "That to maintain the friendship that existed between them, he must renounce the worship of his idols, in order to persuade his subjects to do the same thing from his example." The cacique requested permission to communicate this affair to his priests, to whom he left a sovereign authority to decide in matters of religion. This conference terminated in bringing to the presence of the general this venerable preacher, accompanied by other persons of his profession, who all were bawling very loudly; and these cries, explained by the interpreter, were protestations on the part of heaven against those who should be so rash as to destroy the worship which they rendered to their gods, declaring that they would see punishment immediately follow this attempt. These menaces only irritated Cortes; and his soldiers, accustomed to interpret the expressions of his countenance, immediately comprehended his intentions, and fell upon the idol with so much ardor that it was cut in pieces in a moment, as well as a great number of small statues placed in different niches around it. This fracas put the Indians in a terrible consternation; but when they saw that the sky was very serene, and that the promised vengeance was much delayed, the respect which they had for their idol was turned into contempt. They were angry to see their gods so pacific, and this rage was the first effect which the truth made in their hearts. The other temples or chapels met the same fate, and the largest being cleaned of all this débris of idolatry, they erected there an altar, upon which they put an *image* of the Holy Virgin; and opposite the entrance to the temple Cortes caused to be erected a great cross, which was dressed by the carpenters of the fleet with as much zeal as diligence. The next day mass was said at this altar.

It is worth noticing, here, the conversion of these heathen tem-

ples, as were several of the Roman, into *Christian* churches, as showing how one nation of a different religion makes use of the edifices of another; and may it not be thus with the present aborigines of this country? May not these mounds, on which they erected these houses of worship, have been or have contained the temples of the nations who preceded them? It will be seen, in the course of this account, that not only on this occasion, but on several others, heathen temples were converted into Christian churches.

At Sempoalla, Cortes, having made the Indians sensible of the abuses of their false gods, finally told them that he had determined to ruin all these images of the devil, and that if they would do with their own hands so sacred a work, he would be forever obliged to them. He wished to persuade them to ascend the steps of the temple, to go and pull down their idols; but they responded to this proposition only with their exclamations and their tears; even so far that, casting themselves on the ground, they protested that they would let themselves be cut in pieces rather than lay hands on their gods. Cortes would not insist more on a point which caused them so much pain; he commanded his soldiers to do it, and they worked at it so willingly that in a moment there were seen flying in pieces, from the top to the bottom of the steps, the principal idol and all his suit, accompanied even with the altars and all the detestable instruments of this impious worship. Some of these idols were shaped like furious dragons, and were about the size of young calves; others with half the human form; some again were like large dogs. The Indians witnessed the ruin with much emotion and astonishment. They looked upon one another as if they expected every moment the punishment which heaven should inflict for this action; but as they saw the sky very clear, they very soon fell into the same ideas as the Indians of Cozumel; for seeing their gods in pieces, without the power to avenge themselves, they ceased to dread them, and despised their weakness, as the people recognized, by the ruin of their powers, how much they were deceived when they made them objects of their adoration.

This experience made the Sempoallans more docile and more submissive to the orders of Cortes, because, if till then they had regarded the Spaniards as men of a species far above themselves, they now found themselves obliged to avow that they were even above their gods. Cortes, knowing that he had acquired an ascendancy over their minds by this act, commanded them to clean the temple. This they did with so much joy and zeal that they cast into the fire all the pieces of their idols, in order to show that they

were wholly undeceived. The cacique ordered his architects to wash the walls of the temple (in order to efface from them all the mournful blood-stains of the men sacrificed), who made a most beautiful ornament of it. They then gave it a coat of that “*gez-gez*,” so white and so brilliant, of which they make use to embellish their houses; and they built there an altar, where the *image* of the most holy Virgin was placed, decked with a great quantity of flowers and with some candles. The day following they celebrated there the holy Mass, with all the solemnity that the time and place would permit.*

The following, from Bernal Diaz, gives information in regard to the sacrifices at the City of Mexico. This scene took place, after the destruction of the Temple of Sempoalla, at Quiahuitzlan, built on the steep declivity of a rock: “We arrived in the midst of the town without meeting any one. On the most elevated point of the fortress there was an open space in front of the *cues* and large houses of their idols, and here we first met with fifteen well-dressed Indians, who were carrying perfuming-pans. With these they went up to Cortes, perfumed him and all who were near at the time, and bid us welcome.†

“While the first welcoming was going on, it was announced to Cortes that the fat cacique of Sempoalla was approaching in a sedan supported by numbers of distinguished Indians. Immediately upon his arrival he renewed his complaints against Montezuma, in which he was joined by the caciques of this township and other chief personages. He related so much of the cruelties and oppression they had suffered, and thereby sobbed and sighed so bitterly, that we could not help being affected. At the time when they had been subdued they had already been greatly ill-used. Montezuma then demanded annually a great number of their sons and daughters, a portion of whom were sacrificed to his idols, and the rest were employed in his household and for tilling his ground. His tax-gatherers took their wives and daughters without any ceremony, if they were handsome, merely to sat-

* From a French version of “*De Solis*,” by the author of the “Triumvirate.”

† A ludicrous incident occurred on one of the voyages of Columbus to America. When he had landed at some place on the continent, the Indians approached him and prepared to perfume him, but when the Spaniards beheld the white powder that they sprinkled in the air, they, imagining it was some species of sorcery or enchantment, rushed at the Indians, who fled for their lives. Yet these superstitious Spaniards had hundreds of times seen similar ceremonies in their own temples, by their own priests. But the followers of Cortes were quite a different set of men from the sailors of Columbus.

isfy their lusts. The Totanaques, whose territory consisted of upwards of thirty townships, suffered the like violence.

"We soon had proof of this on the very spot, for during our discourse with their caciques some Indians belonging to the district announced that just then five Mexican tax-gatherers had arrived. At this information the caciques turned quite pale with fear. They left Cortes and hastened to receive the unexpected guests, for whom an apartment was immediately cleaned, and dinner set on table. As the house of the cacique was in the vicinity, the Mexicans passed by our quarters, but behaved with such reserve and hauteur that they addressed neither Cortes nor any of us. They wore richly-worked mantles, and maltatas similarly manufactured, which were then and still are in fashion among them. The hair of their head was combed out quite glossy and tied up in a knot, in which were stuck some sweet-scented roses. Every one carried a stick with a hook, and had an Indian slave to keep off the flies. They were accompanied by a great number of distinguished personages from the country of the Totanaques, who remained around them until they arrived at their quarters and had sat down to dinner.

"Cortes, who observed how restless every one appeared, desired Dona Marina and Aguilar to explain the reason of all this, and who the strange Indians were. They answered that they were tax-gatherers of the great Montezuma, who had remonstrated with them for having received us without his previous permission, and now required twenty persons, of both sexes, for a sacrifice to the god of war, in order that he should grant them the victory over us. Upon this Cortes consoled them and bade them take courage, assuring them that he would punish the Mexicans for it, as both himself and his troops were willing and able to do so. As the Mexican tax-gatherers now required human beings of them for these sacrifices, he would take and keep them prisoners until Montezuma should learn the reason why he had done so.

"When the Indians learned this astounding and, to them, so important an occurrence, they said to one another that such great things could not have been done by men, but only by Teules, which sometimes means gods, and sometimes demons; here in the former sense, which was the reason they termed us *teules* from that moment."

What is remarkable in this account is the absurdity and inconsistency of the conduct of these Indians, who sacrificed human beings on the altars to their gods and sold the flesh of their victims in their public markets!

The following is an account of the Temple of Cholula: *

Cortes having appointed the day on which he was to leave Tlascalla, the Tlascallans advised the general to go by Guajazingo, a plentiful and safe country, because the people of Cholula, besides being cunning and traitors, rendered slavish obedience to Montezuma, who had no subjects more submissive or more faithful. The Indians added :

"That all the neighboring provinces of this town regard it as a holy land, because it embraced within its walls more than four hundred temples of gods so strange that they overwhelm people by the force of prodigies. That for these reasons it was too dangerous to pass through their lands without having some mark of their approval."

The entry of the Spaniards into the town of Cholula was attended by all the circumstances of that of Tlascalla—a frightful concourse of people, which they pierced with difficulty, and deafening acclamations. The town appeared so pretty to the Spaniards that they compared it to Valladolid. It was situated in a plain open on all sides, as far as the eye could view, and very pleasant. They say that it could contain then twenty thousand inhabitants, without counting those of the suburbs, which were of a greater number. There was a great resort of strangers to it, who came there either as to a sanctuary of their gods or as to a place celebrated by their commerce. The streets were well drawn, and the houses larger and of a better architecture than those of Tlascalla; especially their sumptuousness was remarkable in the towers, which made known the number of their temples. The people were more wise than warlike, and the most of them merchants or officers; many people, and few of distinction.

The lodgings which they had prepared for the Spaniards consisted of two or three great houses, which joined each other, where the Spaniards and Sempoallans fortified themselves. The Tlascallans took a position a little distant from the town.

The Tlascalan officers informed Cortes that the inhabitants meditated some treason. "It was learned, also, that in the most celebrated temple of the town they had sacrificed ten children of both sexes, a ceremony which they performed when they wished to undertake some warlike action. Two or three Sempoallans arrived at this moment; they had, in walking through the town, discovered by chance the trenches which the Cholulans had dug,

* From a work which has on the title-page "Traducte de l'Espagnol de Dom Antoine de Solis, par l'Auteur du Triumvirat."

and, moreover, observed ditches and palisades which the Indians had made in order to lead the horsemen direct to ruin."

After this, Cortes informed the caciques who governed the city, and published, that he had decided to leave the following day. He demanded of the caciques provisions for his troops during their march, Indians to carry the baggage, and two thousand warriors to accompany him.

The porters arrived in small numbers at daybreak, with some few provisions. The warriors came afterward in file; the pretext was to accompany the Spaniards during their journey, but they had orders to attack the rear guard at a certain signal, when the opportunity presented itself. The general had them posted separately in divers places of his lodgings, where they were, as it were, guarded; making them believe it was the method which the Spaniards observed when they wished to form their order of battle. In fact, he disposed his soldiers, well-informed of what they had to do. As for him, he mounted his horse with those who were to follow him; after which he had the caciques called, in order to inform them of his decision. Some of them presented themselves; others excused themselves; and Marina told the former, by order of Cortes, that their treason was discovered and that they had resolved to chastise it, etc. Hardly had he declared the evils which were going to happen to them, when the caciques fled to their troops, and gave the signal of battle by insults and threats, which were heard at a distance. Then Cortes ordered his infantry to attack the Indians of Cholula whom he had kept shut up in many places of his quarters, and although they found them with arms in their hands, with the design of executing their treason, and they had made great efforts to unite, they were nevertheless cut in pieces, so that there only escaped those who could conceal themselves or leap over the walls by making use of their lances, and by their swiftness, which is natural to them.

After they had thus secured their quarters by the slaughter of these covert enemies, they gave the signal to the Tlascallans, and the Spaniards advanced through the principal street, after having left a sufficient guard at the quarters. They detached some Sempoallans that they might make known the trenches and the horsemen be able to avoid that danger. In the meantime the Cholulans were not negligent. The moment they saw the battle begun they sent for the rest of the Mexican troops, and after being united to them in the great square, where there were three or four temples, they furnished its porticos and towers with a part of their

soldiers, and divided the rest in several battalions, with the design of attacking the Spaniards, whose first ranks began to appear in the public square and mingle with the enemy, when the Tlascallans fell upon their rear-guard. This unexpected attack threw them into such a great fright and such disorder that they knew not what to do, neither to escape nor to defend themselves. The Spaniards, finding no more obstruction and no resistance in these wretches, who flying one danger fell into another, without knowing which was the greater, nevertheless the greater number escaped into the temple, the steps of which and the terraces were loaded with, rather than defended, by a multitude of armed Indians. The Mexicans had undertaken its defence, but they found themselves so pressed by the crowd of inhabitants that rushed there in disorder that they could not turn, and hardly had they room to discharge a few arrows.

The general approached in good order the largest of these temples, and ordered the interpreter to proclaim in a loud voice that he would give quarters to those who would descend and surrender. He caused this to be repeated three times, and as he saw that his efforts were useless, he ordered that they should set fire to the towers of this temple, and the authors assert that this order was executed with the greatest rigor, and that many Indians were miserably consumed in the fire, or crushed under the ruins. However, it appears that they could not easily put fire to these buildings, which were very high, before they had reached the steps of the temple, unless Cortes had made use of those inflammable arrows with which the Indians aided themselves in throwing their artificial fire. What there is certain is, that they could not dislodge the enemy from it until they had made use of their artillery; and it was noticed as a surprising thing that of all those who were cut in pieces in this temple, there was not a single one who voluntarily surrendered to the Spaniards, which is a terrible indication of the obstinacy of these wretches.

They attacked the other temples in the same manner, after which the soldiers spread themselves through the city, which was entirely destroyed, and the battle ceased for want of enemies. There remained in the streets of Cholula more than six thousand men slain, Mexicans and inhabitants, without it costing us a single man, so well the general knew how to conduct this action, which merits the name of chastisement rather than that of victory.*

The ancient city of Cholula, capital of the republic of that

* De Solis.

name, lay nearly six leagues south of Tlascalla, and about twenty east, or rather south-east, from Mexico. It was unquestionably at the time of the Conquest one of the most populous and flourishing cities in New Spain.

It was of great antiquity, and was founded by the primitive races who overspread the land before the Aztecs. Veytia carries back the foundation of the city to the Ulmechs, a people who preceded the Toltecs. The state maintained its independence down to a very late period, when, if not reduced to vassalage by the Aztecs, it was so far under their control as to enjoy few of the benefits of a separate political existence. The Cholulan capital was the great commercial emporium of the plateau.

But the capital, so conspicuous for its refinement and its great antiquity, was even more venerable for the religious traditions which invested it. It was here that the god Quetzalcoatl paused on his passage to the coast, and passed twenty years in teaching the Toltec inhabitants the arts of civilization. He made them acquainted with better forms of government, and a more spiritualized religion, in which the only sacrifices were the fruits and flowers of the season. It is not easy to determine what he taught, since his lessons have been so mingled with the licentious dogmas of his own priests and the mystic commentaries of the Christian missionary.

It was in honor of this benevolent deity that the stupendous mound was erected, the most colossal fabric in New Spain, rivaling in dimensions, and somewhat resembling in form, the pyramidal structures of ancient Egypt. The date of its erection is unknown, for it was found there when the Aztecs entered in the plateau. It had the form common to the Mexican teocallis, that of a truncated pyramid, facing with its four sides the cardinal points, and divided into the same number of terraces. Its original outlines, however, have been effaced by the action of time and of the elements. A road cut some years ago across the tumulus laid open a large section of it, in which the alternate layers of brick and clay are distinctly visible. The perpendicular height of the pyramid is one hundred and seventy-seven feet. Its base is fourteen hundred and twenty-three feet long, as long as that of the great pyramid of Cheops, and covers about forty-four acres, and the platform on its truncated summit embraces more than one. On the summit stood a sumptuous temple, in which was the image of the mystic deity, "god of the air," with ebon features, unlike the fair complexion which he bore upon earth, wearing a mitre on his head, waving with plumes of fire,* with a

* Figuratively, probably, for red plumes or feathers.

resplendent collar of gold round his neck, pendants of mosaic turquoise in his ears, a jeweled sceptre in one hand, and a shield curiously painted, the emblem of his rule over the winds, in the other.* Pilgrims from the furthest corners of Anahuac came to offer up their devotions at the shrine of Quetzalcoatl.†

Many of the kindred races had temples of their own in the city, in the same manner as some Christian nations have in Rome, and each temple was provided with its own peculiar ministers for the service of the deity to whom it was consecrated.‡ In no city was there such a concourse of priests, so many processions, such pomp of ceremonials, sacrifices and religious festivals. Cholula was, in short, what Mecca is among Mahomedans or Jerusalem is among Christians—it was the Holy City of Anahuac.

The religious rites were not performed, however, in the pure spirit originally prescribed by its tutelary deity. His altars, as well as those of the numerous Aztec gods, were stained with human blood, and six thousand victims *are said* to have been annually offered up at their sanguinary shrines. The great number of these may be estimated from the declaration of Cortes, that he counted four hundred towers in the city, yet no temple had more than two, many only one. High above the rest rose the great “pyramid of Cholula, with its undying fires, flinging their radiance far and wide over the capital, and proclaiming to the nations that there was the mystic worship—alas! how corrupted by cruelty and superstition—of the good deity who was one day to return and resume his empire over the land.”§

These teocallis were places not only for the performance of religious rites, but also of refuge and defence. The Indians believed in their sanctity and their supernatural influence. As the Christians at the capture of Constantinople fled to St. Sophia, for its miraculous protection, so the Indians of Mexico fled to a teocalli at the capture of that city by the Spaniards, believing that its sacred character would render it impregnable to the assaults of the enemy, but Cortes soon undeceived them by a few discharges of his cannon.

* “A minute account of the costume and insignia of Quetzalcoatl is given by Father Sahagun, who saw the Aztec gods before the arm of the Christian convert had tumbled them from ‘their pride of place.’”

† “From the distance of two hundred leagues,” says Torquemada.

‡ It appears that all, or almost all, heathen nations were tolerant of *religious* rites and creeds. Rome, Greece, and Egypt were stocked with idols and deities of various kinds.

§ Prescott’s “History of the Conquest of Mexico.”

When the Mexicans attacked Cortes and his men in the City of Mexico, they took possession of the great temple, to the loftiest and most considerable tower of which nearly five hundred Indians, apparently persons of rank, ascended. This teocalli had, according to Cortes's letter, three or four terraces, about a yard wide, and were about sixteen feet one above another. This would make the height of this teocalli sixty-four feet. He says: "So arduous was the attempt to take this tower, that if God had not broken their spirits twenty of them would have been sufficient to resist the ascent of a thousand men, although they fought with the greatest valor."

De Solis thus describes the capture of it by the Spaniards: "The morning following the day on which the obsequies of Montezuma were celebrated, by daybreak all the streets in the neighborhood were occupied and garrisoned by the Indians, the towers of the great temple, which was a little distance from the quarters, commanding a part of the edifice within reach of their slings and arrows, a position which Cortes would have fortified if he had had sufficient forces to divide them.

The ascent to the top of this temple was by a hundred steps. They had lodged in it as many as five hundred soldiers, selected from among the Mexican nobles, so determined to maintain it that they had provided themselves with arms and provisions for many days.

Cortes found himself obliged to dislodge the enemy from so advantageous a position, and to accomplish it he drew the greater part of his men outside of the ramparts, divided into squadrons, and committed the attack to Captain Escobar with his company of a hundred select Spaniards. Escobar attacked and took the lower portico and a part of the steps, for the Indians intentionally allowed them to approach them that they might better attack them nearer; and on seeing the opportunity they covered the ramparts with men, and discharged their arrows and darts with so much vigor and concert that they compelled him to stop and order that they should use their arquebuses and cross-bows against those who showed themselves; but it was not possible to resist the second charge, which was more severe. They had in store great stones and *gruesas*, beams some of them, the half on fire, they let fall from the top, which recovering force on the slope of the steps, obliged him to recede three times.* Hernando Cortes

* From this it is evident that the ascent to the top of the teocalli was by a ramp with steps, leading directly to the top. Besides, it is evident from the attack of Escobar and that of Cortes that neither of them made repeated circuits on the terraces of the teocalli to reach the top.

recognized the danger, and dismounting, reinforced the company of Escobar with the men of his own company. He caused a shield to be tied to his wounded arm, and rushed up the steps with the greatest resolution. He quickly and fortunately conquered the impediments to the assault, reached at the first attack the last steps, and soon after the battlements of the top. They were Mexican nobles who defended it, and they allowed themselves to be cut in pieces rather than surrender their arms. The priests and ministers of the temple died fighting, and in a short time Cortes was master of the position.

There were several teocallis in Sempoalla. Narvaez, who was sent with forces by Velasquez, governor of Cuba, to capture Cortes, fortified himself in one of them, where he was surprised by Cortes. "Sandoval charged the quarters of Narvaez, and drove his adversaries from the court to the teocalli, and commenced advancing up the steps, but not being able to sustain himself against a body of troops much larger than his own, and in an advantageous position, he was beaten back down the steps. Just at this critical juncture Olid arrived to his assistance, the tide was turned, and Sandoval again pressed forward with renewed vigor. Narvaez now appeared in the midst of his men, and did everything to animate them and to put them in order, after which he rushed forward into the thickest of the fight, where he received so violent a blow in his face, from a lance, that it crushed his eye and hurled him senseless to the pave. The fall of Narvaez caused confusion in his men, who found themselves obliged to retire, and the conquerors took this opportunity to drag Narvaez to the foot of the stair and into the midst of the rear battalion.

"The battle, however, still continued in various points, as several of Narvaez's officers maintained their positions on the tops of other teocallis. Cortes, however, sent round a herald to summon them to surrender under penalty of death in case of refusal. This had the desired effect, and only the troops under young Diego Velasquez and Salvatierra, which had taken up their position on the summit of a very high teocalli, where it was difficult to get at them, refused to submit. But Juan Velasquez, of Leon, attacked them so vigorously that at last he forced them to surrender."

CHAPTER XIII.

Mexico—The Founding of the Great Temple—Descriptions of the Great Temple at Mexico—Description of the Temples of Teotihuacan, Xochicalco, Mitla, and Papantla—The Mexican Hierarchy—Monasteries—Nunneries—Sacrifices—Offerings—Penances—Funeral Rites—Fortifications.

In the "History of Mexico," translated from the original Italian of the Abbé Francisco Saverio Clavigero, by Charles Cullen, is the following:

"Tizoc died in the fifth year of his reign, the one thousand four hundred and eighty-second year of the vulgar era. During his time the power and wealth of the crown had arrived to such a height that he undertook to construct a temple to the tutelary god of the nation, 'which was to have surpassed, in grandeur and magnificence, all the temples of that country.' He had prepared a great quantity of material for that purpose, and had begun the structure when death interrupted his projects.

"The electors being assembled to appoint a new king, they chose Ahuitzotl, the brother of their two preceding kings, who was already general of the army; for, from the time of Chimalpopoca,* the custom had prevailed of exalting no one to the throne who had not first occupied that post.

"The first object to which the new king paid attention was the finishing of that magnificent temple which had been designed and begun by his predecessor. It was resumed with the utmost spirit and activity, an incredible number of workmen being assembled, and was completed in four years. While the building was being constructed, the king went frequently to war, and all the prisoners which were taken from the enemy were reserved for the festival of its consecration. The wars of these four years were carried on against the Mazahuas, a few miles distant towards the west, who had rebelled against the crown of Tacuba; against the Zapotecas, three hundred miles distant in the southeast; and against several other nations. When the fabric was completed, the king invited the two allied kings, and all the nobility of both kingdoms, to the dedication. The concourse of people was, by far, the most numer-

* "His (Chimalpopoca's) reign lasted about thirteen years, being concluded in 1423. Chimalpopoca was the third King of Mexico, from the beginning of the thirteenth century."

ous ever seen in Mexico, as this famous solemnity drew spectators from the most distant places. The festival lasted four days, during which they sacrificed, in the upper porch of the temple, all the prisoners which they had made in the four preceding years. Historians are not agreed concerning the number of the victims. Torquemada says that they amounted to seventy-two thousand three hundred and forty-four; others affirm they were sixty-four thousand and sixty in number. After the festival the king made presents to all whom he had invited. This event happened in 1486.

"In 1510 Montezuma, thinking the altar for the sacrifices too small, and unproportioned to the magnificence of the temple, caused a proper stone of excessive size to be sought for, which was found near to Cojoacan. After ordering it to be cut and polished, he commanded it to be brought in due form to Mexico, where it was consecrated with the sacrifice of all the prisoners that had been reserved for this great festival. In this same year the consecration of the temple Tlamatzinco was celebrated, and also that of Quaxicalco. The victims sacrificed at the consecration of these two edifices, and the altar of the sacrifices, were, according to the account of historians, twelve thousand two hundred and ten in number.

"The Mexicans called the temple *Teocalli*, that is, the House of God, and *Teopan*, the Place of God. The immense temple, reared and dedicated by Ahitzotl, was the temple which the Spaniards celebrated so highly after they had destroyed it. It were to be wished that their accuracy in describing its dimensions had been but equal to their zeal in destroying that superb monument of superstition; but such is the variety of their accounts that, after having labored to reconcile them, I have found it impossible to ascertain its proportions; nor should I ever have been able to form an idea of the architecture of that temple without the figure presented to us by the Anonymous Conqueror, a copy of which I have here subjoined, although I have paid less regard in it to his delineation than his description. I shall mention, therefore, all that I think may be depended upon after a very tedious comparison of the descriptions given by four eye-witnesses, and neglect what I have been unable to extract from the confusion of different authors."*

* "The four eye-witnesses, whose descriptions we have connected together, are Cortes, Bernal Diaz, the Anonymous Conqueror and Sahagun. The first three lived for several months in the palace of the King Axajacatl, near the temple, and, therefore, saw it every day. Sahagun, though he never saw it

The great temple [11] occupied the centre of the city, and, together with the other temples and buildings annexed to it, comprehended all that space upon which the great cathedral church now stands, part of the greater market-place, and part, likewise, of the streets and buildings around. Within the enclosure of the wall, which encompassed it in a square form, Cortes affirms five hundred houses might have stood.

The wall, built of stone and lime, was very thick, eight feet high, crowned with battlements in the form of niches, and ornamented with many stone figures in the shape of serpents, whence it obtained the name of Coatepantli, or the wall of serpents. It had four gates to the four cardinal points: the eastern gate looked to a broad street which led to the lake Tezcoco; they corresponded to the three principal streets of the city, the broadest and straightest, which formed a continuation with those built upon the lake that led to Iztapalapan, to Tacuba, and to Tepejacac. Over each of the four gates was an arsenal filled with a vast quantity of offensive and defensive weapons, where the troops went when it was necessary to be supplied with arms. The space within the wall was curiously paved with such smooth and polished stones that the horses of the Spaniards could not move upon them without slipping and tumbling down. In the middle was raised an immense solid building of greater length than breadth,* covered with square, equal pieces of pavement. The building consisted of five bodies nearly equal in height, but differing in length and breadth, the highest being narrowest. The first body, or base of the building, was more than fifty perches long from east to west, and about forty-three in breadth from north to south; the second body

entire, yet saw some part of it, and could discover what ground it had occupied. Gomera, who did not himself see the temple, nor ever was in Mexico, received the different accounts of it from the conquerors themselves, who saw it. Acosta, whose description has been copied by Herrera and De Solis, instead of the great temple, describes one perfectly different. This author was not in Mexico until sixty years after the conquest."

* "Gomera affirms that the wall was a very long bowshot in length upon every side. Dr. Hernandez allows to the wall of every side two hundred Toledo cubits, which is about eighty-six perches. Sahagun makes the temple perfectly square. The Anonymous Conqueror represents it to have been of greater length than breadth, like those of Teotihuacan, which served as models for all the rest. Sahagun gives to the first body, upon every side, three hundred and sixty Toledo feet, a little more than fifty perches. Gomera gives it fifty brazas, about forty perches, which is the measure of its breadth." But the most difficult to understand is the ascent to the top of the great temple. From the account of Cortes' capture of the temple one would believe that the ascent was by continuous steps formed on a ramp in the front of the building.

was about a perch less in length and breadth than the first; the third as much less than the second, and the rest in proportion; so that upon each body there remained a free space or plain, which would allow three or even four men abreast to walk round the next body.

The stairs, which were upon the south side, were made of large, well-formed stones, and consisted of one hundred and fourteen steps, each a foot high. They were not, however, one single staircase continued all the way, as they have been represented by the authors of "The General History of Travels" and the publishers of "Cortes' Letters in Mexico," but were divided into as many separate staircases as there were bodies of the building; so that, after getting to the top of the first staircase, we could not mount the second without going along the first plain round to the second, nor the third without going along the second plain, and so of the rest.

The area of the top of the temple, which was about forty-three perches by thirty-four, was as well paved as the great area below. At the eastern extremity of this plain were raised two towers to the height of fifty feet. Each was divided into three bodies, the lower of which was of stone and lime, and the other two of wood very well wrought and painted. The inferior body of each was properly the sanctuary, where, upon an altar of stone, five feet high, were placed the tutelary idols. One of these two sanctuaries was consecrated to Huitzilopochtli and the gods of war, and the other to Tezcatlipoca. The other bodies were destined to the keeping of some things belonging to the worship and the ashes of some kings and lords who through particular devotion desired that to be done. The doors of both sanctuaries were towards the west, and both towers terminated in a very beautiful wooden cupola. There is no author who has described the internal disposition and ornaments of the sanctuaries; so that what is represented incomplete is only delineated from conjecture. I believe, however, we may venture to say, without danger of mistake, that the height of the building, without towers, was not less than nineteen perches, and, with the towers, exceeded twenty-eight. From that height one might see the lake, the cities around and a great part of the valley; and it has been affirmed, by eye-witnesses, to be the finest prospect in the world.

Before the two sanctuaries were two stone stoves of the height of a man and of the shape of our holy pyx, in which they preserved a constant fire night and day with the utmost care, fearing that, if ever it went out, they should suffer the most dreadful

punishment from heaven. In the other temples and religious buildings comprised within the enclosure of the great wall there were six hundred stoves of the same size and figure, which, in the night-time, when they used all to be burning, presented a very pleasing sight.

In the space betwixt the wall and the great temple there were besides a place for their religious dances, upwards of forty lesser temples consecrated to the other gods, and many other buildings scattered about, of which, for their singularity, it will be necessary to give some account.

The most remarkable were the Temples of Tezcatlipoca, Tlaloc, and Quetzalcoatl. They all resembled one another in form, but were of different sizes, and all fronted the great temple, while the other temples without this area were built with the front towards the west. The Temple of Quetzalcoatl, which differed from the rest in form, it being *round*, and the others *quadrangular*. The door of this sanctuary was the mouth of an enormous serpent of stone armed with fangs.* Some Spaniards, tempted by curiosity to go into that diabolical temple, afterwards confessed the horror which they felt upon entering it. Among other temples there was one called Lihuicatitlan, dedicated to the planet Venus, in which was a great pillar with the figure of that star printed or engraved upon it, near which, at the time of her appearance, they sacrificed prisoners.

Among the remarkable buildings within this area besides the four arsenals over the four gates,† there was another near the temple Tezcatcalli (*house of mirrors*), so called from its walls being covered with mirrors on the inside. There was another small temple called Teccizcilli, all adorned with shells. There were ponds in which the priests bathed, and fountains, the waters of which they drank. In the pond, called Tezcapan, many bathed in obedience to a particular vow made to the gods. The water of one of the fountains, called Toxpalatl, was esteemed holy; it was drank only at the most solemn feasts, and no person was allowed to taste it at any other time.

Particular apartments were destined for the keeping of idols. Among the buildings most striking from their singularity was a great, prison-like cage, in which they kept the idols of the conquered nations, as if imprisoned. In some other buildings of this

* *Coatl* *pantli* *serpents-wall*, and *Coatl* in *Quetzalcoatl*, signifies serpent.

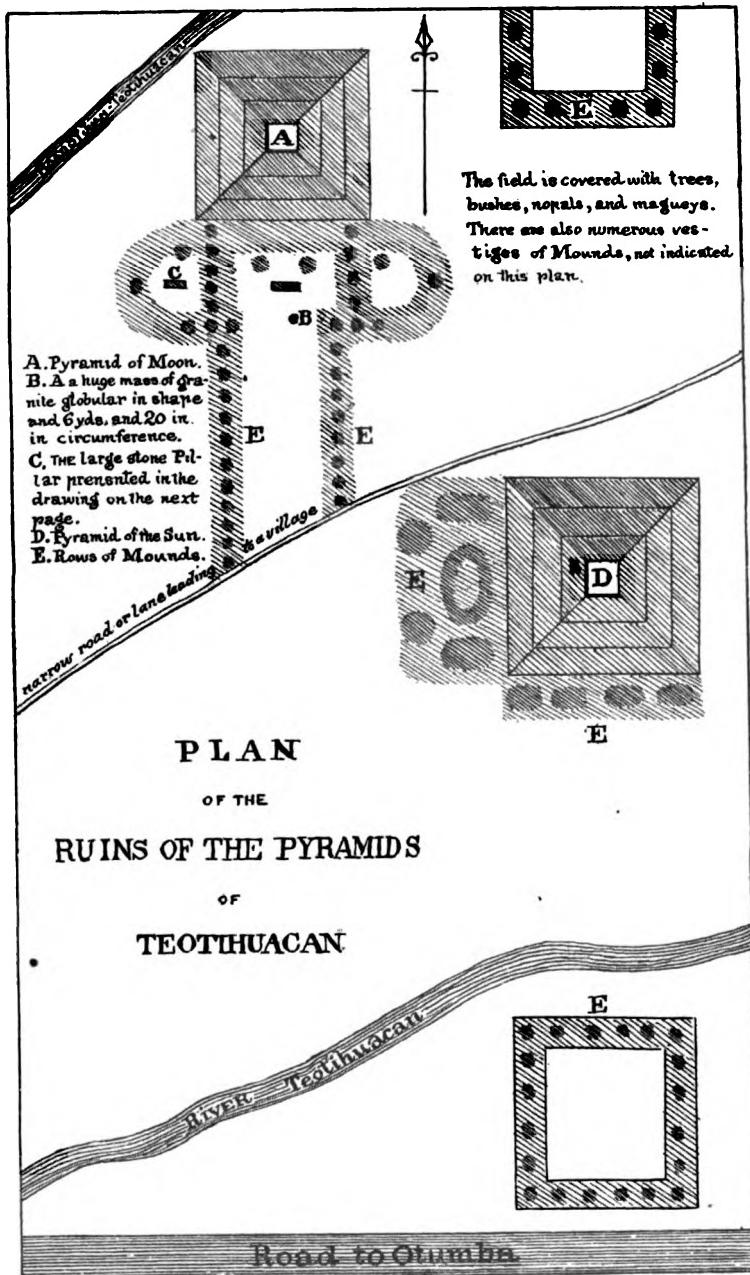
† Not represented in the pictures of the enclosure. Rather an awkward place for an arsenal. Diaz does not mention them.

kind they preserved the heads of those who had been sacrificed, some in which were nothing but heaps of bones piled upon one another. In others the heads were arranged in regular order upon poles or fixed against the walls, forming by the variety of their disposition a spectacle not less curious than horrible. The greatest of these buildings, called Huitzompan, although not within the great wall, was but a little way from it, over against the principal gate. This was a prodigious rampart of earth, longer than it was broad, in the form of a half-pyramid. In the lowest part it was one hundred and fifty-four feet long. The ascent to the plain upon top of it was by a stair of thirty steps. Upon that plain were erected, about four feet asunder, more than seventy very long beams, bored from top to bottom. By these holes sticks were passed across from one beam to another, and upon each of them a certain number of heads were strung by the temples. Upon the steps also of the stair there was a head betwixt every stone, and at each end of the same edifice was a tower which appeared to have been made only of skulls and lime. As soon as a head began to crumble with age, the priest supplied its place with a fresh one from the bone-heaps, in order to preserve the due number and arrangement. The skulls of ordinary victims were stripped of the scalp, but those of men of rank and great warriors they endeavored to preserve with the skin and beard and hair entire, which served only to render more frightful these trophies of their barbarous superstition. The number of heads preserved in this and such other buildings is so great, that some of the Spanish conquerors took the trouble of reckoning up those upon the steps of this building and upon the files betwixt the beams, and found them amount to one hundred and thirty-six thousand.*

Besides these temples, there were others scattered in different quarters of the city. Some authors make the number of temples in that capital (comprehending, as may be imagined, even the smallest), amount to two thousand, and that of the towers to three hundred and sixty, but we do not know that any one ever actually counted them. There can be no doubt, however, that they were very numerous, and among them seven or eight distinguished for their size; but that of Tlatelolco, consecrated likewise to Huitzilopochtli, rose above them all.

Out of the capital the most celebrated were those of Tezcoco, Cholula, and Teotihuacan. The lofty pyramid of Cholula, raised

* This horrible and disgusting exhibition of human bones and skulls is not peculiar to Mexico; such horrors are found in Europe, and may be introduced into the United States.



by the Toltecas, remains to this day, in that place where there was formerly a temple consecrated to that false deity, and *now is* a holy sanctuary of the *Mother* of the true God; but the pyramid, from its great antiquity, is so covered with earth and bushes that it seems more like a natural eminence than an edifice. Its circumference in the lower part is less than half a mile. One may ascend to the top by a path made in a spiral direction around the pyramid, and I went up on horseback in 1744.

The famous edifices of Teotihuacan [12], about three miles south from that place, and more than twenty from Mexico, towards Greco, still subsist. These immense buildings, which served as a model for the temples of that country, were two temples consecrated, the one to the Sun, and the other to the Moon, represented by two idols of monstrous bulk, made of stone and covered with gold. That of the sun had a great concavity in the breast, and an image of that planet, of the purest gold, fixed in it. The conquerors possessed themselves of the gold; the idols were broken by order of the first bishop of Mexico. The base or inferior body of the Temple of the Sun is twenty-eight perches long and eighty-six broad, and the height of the whole building is in proportion.* That of the Moon is eighty-six perches long at the base and sixty-three broad. Each of these temples is divided into four bodies, and as many stairs, which are arranged in the same manner with those of the great Temple of Mexico, but cannot now be traced, partly from their ruinous condition and partly from the great quantity of earth with which they are everywhere covered. Round these edifices are scattered several little hills, which are supposed to have been as many lesser temples, dedicated to the other planets and stars; and from this place being so full of religious buildings, antiquity gave it the name of Teotihuacan.†

The description of the House of the Sun and of the House of the Moon, by Brantz Mayer, is as follows: "Ascending the one hundred and twenty-one feet of the House of the Sun, we reach a level platform on the summit, whence a charming prospect extends for many miles to the south and east over cultivated fields. At the southern base of the pyramid, which measures six hundred and eighty-two feet, there are four small mounds, and, beyond these, there is a range of lesser *tumuli* running towards an elevated square of mounds, lying between the stream

* "Cav Boturini measured their height; but when he wrote his book he had not the measure with him; yet he thinks he found the Temple of the Sun to have been two hundred Castilian cubits high; that is, thirty-six perches."

† Clavigero.

west of *Teotihuacan* and the present road to Otumba. On the west front, five *tumuli* surround an oval mound, whose centre is depressed, and all of these jut out westwardly towards a line of similar grave-like elevations lying on both sides of the avenue that leads to the House of the Moon. This road is the Micoatl, or Path of the Dead.

"The other pyramid, or House of the Moon, is smaller, and, like its neighbor, is composed of rocks, stones, pottery and cement—covered with the débris of obsidian and terra-cotta images, which lie scattered from the top to the base amid the tangled aloes and creepers which have struck their roots deeply into the crevices. The House of the Sun is not known to have any cavity within its body; but in the House of the Moon, between the second and third terraces, a narrow passage has been detected, through which two wells or sunken chambers, about fifteen feet deep, may be reached by crawling on hands and knees over an inclined plain for a distance of about eight yards. The walls of this cryptic entrance and of the sunken chambers are made of the common sun-dried bricks; but there are no remains of sculpture, painting or bodies to reward an antiquarian for groping through the dark and dusty aperture.

"South of this pyramid of the Moon is the Micoatl, or Path of the Dead. Two elliptical elevations rise at the southeast and southwest corners of the Teocalli, upon each of which there are three similar mounds. Four circular and one square mound lie within the area of this enclosure, and the whole appears to form a massive portal of tumuli to the majestic pyramid. A long double line of minor mounds stretch away to the south on the sides of the avenue until all traces of them are lost in the field in front of the Temple of the Sun, with whose groups of tumuli this path was, in all likelihood, formerly united. A better idea of the localities of these remains will be obtained by examining the plan, which was carefully prepared by the author on the spot in 1842.

"About eighteen miles south of Cuernavaca, in the State of Mexico, there is a *cerro*, or hill, known as Xochicalco, or the 'hill of flowers,' whose summit is occupied by the remains of an ancient stone pyramid. The traveller reaches this eminence after travelling over a wide plain intersected by deep barrancas and almost entirely denuded of trees and shrubbery. The base of the hill is surrounded by the remains of a deep, wide ditch, and its top is attained by five spiral terraces, supported by walls of stone joined with cement. At suitable distances from each other, along the edge of this winding path, are the remains of

bulwarks fashioned like the bastions of a fortification. On the summit there is a wide, extensive level, the eastern part of which is occupied by three truncated cones resembling the smaller mounds found among the pyramids of Teotihuacan. On the other three sides of the esplanade there are other masses of stones which may have also been portions of smaller *tumuli*. The stones of which these lesser mounds were constructed have evidently been nicely shaped and covered with a coat of stucco.

"Passing upward, amid tangled trees and vines, along the last terrace and through the cornfield that is cultivated on the plain at top by an Indian *ranchero*, the traveller at length stands before the remains of the elegant structure that once crowned the summit with its carved and massive architecture. The reports of engineers who visited this pyramid in years long past, and the legend of the neighborhood, declared that it originally consisted of five stories, placed upon each other at regular intervals and separated by narrow platforms. But of all these, nothing now remains except portions of the first body, which is formed of cut porphyry, and covered with singular emblems.

"The neighboring planters used it as a quarry, from which they supplied the wants of their estates. In the middle of the eighteenth century the fine terraces were yet perfect. But, as the country became settled in the neighborhood, the farmers began to pilfer from the mass, and not long before we visited it, in 1842, an adjacent landowner had carried off large loads of the sculptured stones to build a dam in a neighboring ravine.*

"The story of this pyramid, that has been thus far spared, is rectangular, and facing north, south, east, or west, in exact correspondence with the cardinal points. It measures sixty-four feet on its northern front above the plinth, and fifty-eight on the western. The distance between the plinth and the frieze is about ten feet; the breadth of the frieze is three feet and a half, and the height of the cornice one foot and five inches. The most perfect portion is the northern front, and here the carving in relief, which is between three and four inches deep, is most distinctly visible. The massive stones—some of which are seven feet eleven inches long by two feet nine inches wide—are all laid upon each other without cement. The weighty materials were drawn from a con-

* Such has been the fate of many relics of antiquity. After civilization ceases barbarism succeeds, and the relics of antiquity supply present necessities, and become the material for new structures. The ruins of one age supplies another. Thus Babel of Babylon and the Pyramids of Egypt served the purposes of after ages.

siderable distance, and borne up a hill three hundred feet in height without the use of horses. Few nations have probably devoted more time and toil to a work which was, perhaps, partly religious and partly defensive.

"It appears from good authority, and from the report of the neighborhood, that the hill itself was partly hollowed into chambers. Some years since a party of gentlemen, under the orders of the Government, explored these subterranean streets, and after groping through dark and narrow passages, whose side-walls were covered with hard and glistening grey cement, they came to three entrances between two enormous pillars cut from the rock of which the hill is formed. Through these portals they entered a chamber whose roof was a cupola of regular shape, built of stones placed in circles, while at the top of the dome was an aperture which probably led to the surface of the earth or the summit of the pyramid."^{*}

In the following extract from Humboldt's "New Spain," in which is given an account of Teotihuacan, Xochicalco, etc., not only is given the measure in inches by Humboldt, but also their equivalent in English feet, by the translator of that work :

The only ancient monuments in the Mexican valley, which, from their size or their masses, can strike the eyes of an European, are the remains of two pyramids of Teotihuacan, situated to the northeast of the lake of Tezcoco, consecrated to the sun and moon, which the Indians called *Tonatiuh Ytzaqual*, house of the sun, and *Metzli Ytzaqual*, house of the moon. According to the measurements made in 1803 by a young Mexican savant, Dr. Oteyza, the first pyramid, which is the most southern, has in its present state a base of two hundred and eight metres (six hundred and eighty-two English feet) in length and fifty-five metres (one hundred and eighty feet) of perpendicular elevation. The second, the pyramid of the moon, is eleven metres (thirty-six feet) lower, and its base is much less. These monuments, according to the accounts of the first travellers, and from the form which they yet exhibit, were the models of the Aztec teocallis. The nations whom the Spaniards found settled in New Spain attribute the pyramids of Teotihuacan to the Toultec nation,† consequently the construction goes back to the eighth or ninth century, for the kingdom of Tolula lasted from 607 to 1031. The faces of these edifices are to

* Brantz Mayer's "History of Mexico."

† Siguenza, however, believes them to be the work of the Olmec nation. If this be true, these monuments would be still older.

within fifty-two seconds exactly placed from north to south and from east to west. Their interior is clay mixed with small stones. This kernel is covered with a thick wall of porous amygdaloid. We perceive, besides, traces of a bed of lime, which covers the stones on the outside. They formed four layers, of which three only are now perceptible; the injuries of time and the vegetation of the cactus and argives have exercised their destructive influence on the exterior of these monuments. A stair of large hewn stones formerly led to their tops, where, according to the accounts of the first travellers, were statutes covered with very thin laminæ of gold. Each of the four principal layers were divided into small gradations of a metre (three feet three inches) in height, of which the edges are still distinguishable, which were covered with fragments of obsidian, that were undoubtedly the edge instruments with which the Toultec and Aztec priests, in their barbarous sacrifices, opened the chests of the human victims. What is very remarkable (especially if we call to mind the assertion of Pecocke as to the symmetrical position of the lower pyramids of Egypt) is that around the houses of the sun and moon at Teotihuacan we find a group, I may say a system, of pyramids of scarcely nine or ten metres (twenty-nine or thirty-two feet) elevation. These monuments, of which there are several hundreds, are disposed in very large streets, which follow exactly the direction of the parallels and of the meridians, and which terminate in the four faces of the two great pyramids. The lesser pyramids are more frequent towards the southern side of the temple of the moon than towards the temple of the sun, and, according to the tradition of the country, they were dedicated to the stars. It appears certain enough that they served as burying-places for the chiefs of tribes. All the plain which the Spaniards called *Llano de los Cues* bore formerly in the Aztec and Toultec languages the name *Micoatl*, or road of the dead.

Another ancient monument is the military entrenchment of Xochicalco, situated to the south-southwest of the town Cuernavaca, near Tetlama. It is an insulated hill of one hundred and seventeen metres of elevation, surrounded with trenches and divided by the hand of man into five terraces covered with masonry. The whole forms a truncated pyramid, of which the four faces are exactly laid down according to the four cardinal points. The porphyry stones with basaltic bases are of a very regular cut, and are adorned with hieroglyphical figures, among which are to be seen crocodiles spouting water, and, what is very curious, men sit-

ting cross-legged in the Asiatic manner. The platform of this extraordinary monument contains more than nine thousand square metres (ninety-six thousand eight hundred and twenty-five square feet), and exhibits the ruins of a small square edifice, which undoubtedly served for a last retreat to the besieged.

The table-land of Puebla exhibits remarkable vestiges of ancient Mexican civilization. The fortifications of Tlaxcallan are of a construction posterior to that of the great pyramid of Cholula. This pyramid consists of four stages, that is, in its present state, the perpendicular elevation is only fifty-four metres (one hundred and seventy-seven feet), and the horizontal breadth of the base four hundred and thirty-nine metres (one thousand four hundred and twenty-three feet); its sides are very exactly in the direction of the meridians and parallels, and it is constructed (if we may judge from the perforation made a few years ago in the north side) of alternate strata of brick and clay. These data are sufficient for our recognition in the construction of this edifice the same model observed in the form of the pyramids of Teotihuacan. They suffice also to prove the great analogy between these brick monuments erected by the ancient inhabitants of Anahuac and the Temple of Belus at Babylon and the pyramids of Darfeur, near Sakhara, in Egypt.

The platform of the truncated pyramid of Cholula has a surface of forty-two hundred metres, forty-five thousand two hundred and eight square feet. The teocalli is exactly the same height as Tonatiuh Ytzaqual of Teotihuacan, and it is three metres higher than the Mycerinus, the third of the great Egyptian pyramids of the group of Ghize. As to the apparent length of its base, it exceeds that of all the edifices of the same description hitherto found by travellers in the old continent, and is almost the double of that of the great pyramid known by the name Cheops. Those who wish to form a clear idea of the great mass of this Mexican monument from a comparison with objects more generally known, may imagine a square four times the dimensions of the Place Vendome covered with a heap of bricks, of twice the elevation of the Louvre. We know not the ancient height of this extraordinary monument.

I shall here subjoin the true dimensions of the three great pyramids of Ghize, from the interesting work of M. Grobert, the dimensions of the brick pyramidal monuments of Sakhara, in Egypt, and of Teotihuacan and Cholula, in Mexico. The numbers are French feet (a French foot=1.060 English).

	STONE PYRAMIDS.			BRICK PYRAMIDS.		
	Cheops.	Cephren.	Mycerinus.	Of Five Stages in Egypt, near Sakhara.	Of Four Stages in Mexico.	
				Teotihuacan.	Cholula.	
Height.....	448	398	102	150	171	172
Length of base.....	728	665	280	210	645	1855

If the province of Oaxaca contains no monuments of ancient Aztec architecture equally astonishing from their dimensions as the teocalli of Cholula and Teotihuacan and Papantla, it contains the ruins of edifices more remarkable for their symmetry and the elegance of their ornaments. The walls of the palace of Mitla are decorated with *Grecques*, and labyrinths in mosaic of small porphyry stones. We perceived in them the same design which we admire in the vases falsely called Tuscan, as in the frise of the old Temple of Deus Rediculus, near the grotto of the nymph Egeria, at Rome.

The village of Mitla was formerly called Migitlan, which signifies in the Mexican language a place of sadness. The Tzapotlc Indians call it Leoba, which means a tomb. In fact, the palace of Mitla was constructed over the tombs of the kings. It was an edifice to which the sovereign retired for some time on the death of a son, a wife, or a mother. The palace, or rather the tombs of Mitla form three edifices, symmetrically placed in an extremely romantic situation. The principal edifice is in best preservation, and is nearly forty metres, one hundred and thirty-two feet, in length. A stair formed in a pit leads to a subterranean apartment of twenty-seven metres in length and eight in breadth (eighty-eight feet by twenty-six). This gloomy apartment is covered with the same *Grecques* which ornament the exterior walls of the edifice.

But what distinguishes the ruins of Mitla from all other remains of Mexican architecture are six porphyry columns, which are in the midst of a vast hall, and support the ceiling. These columns, almost the only ones found in the ancient architecture of the new continent, bear strong marks of the infancy of the art. They have neither base nor capitals. A simple contraction of the upper part is only to be remarked. Their total height is five metres, but their shaft is of one piece of amphibolous porphyry.

Broken-down fragments, for ages heaped together, conceal more than a third of the height of these columns.*

The distribution of the apartments in the interior of this singular edifice bears a striking analogy to what has been remarked in the monuments of Upper Egypt, drawn by M. Denon. M. de Laguna found in the ruins of Mitla curious paintings representing warlike trophies and sacrifices.

In the northern part of the intendancy of Vera Cruz, west from the mouth of the Rio Tecolutla, at two leagues distance from the great Indian village of Papantla, we met with a pyramidal edifice of great antiquity. The pyramid of Papantla remained unknown to the first conquerors. It is situated in the midst of a thick forest called Tajin in the Totonic language. The Indians concealed this monument, the object of an ancient veneration, for centuries from the Spaniards, and it was only discovered accidentally by some hunters about thirty years ago.

The pyramid of Papantla is not constructed of bricks or clay mixed with stones and faced with a wall of amygdaloid, like the pyramids of Cholula and Teotihuacan; the only materials employed are immense stones of a porphyretical shape. Mortar is distinguished on the seams. The edifice, however, is not so remarkable for its size as for its symmetry, the polish of the stones, and the great regularity of their cut. The base of the pyramid is an exact square, each side being twenty-five metres—eighty-two feet—in length. The perpendicular height appears not to be more than from sixteen to twenty metres (fifty-two to sixty-five feet). This monument is composed of several stages. Six are still distinguishable, and a seventh appears to be concealed by the vegetation with which the sides of the pyramid are covered. A great stair of fifty-seven steps conducts to the truncated top of the teocalli, where the human victims were sacrificed. On each side of the stair is a smaller stair. The facing of the stories is adorned with hieroglyphics, in which serpents and crocodiles carved in relief are discernible. Each story contains a great number of square niches, symmetrically distributed. In the first story we reckoned twenty-four on each side; in the second twenty; and in the third sixteen. The number of these niches in

* Amongst the monuments of ancient architecture which are extant in the Mexican empire, the edifices of Mictlan, in Mizteca, are very celebrated. There are many things about them worthy of admiration, particularly a large hall, the roof of which is supported by various cylindrical columns of stone, eighty feet high, and about twenty in circumference, each of them consisting of a single stone.—Clavigero's "History of Mexico," vol. i., page 420.

the body of the pyramid is three hundred and sixty-six, and there are twelve in the stair towards the east. The Abbé Marquez supposes that this number of three hundred and seventy-eight niches has some allusion to a calendar of the Mexicans.*

Clavigero says : "The number of temples throughout the whole Mexican empire was very great. Torquemada thought there might be forty thousand ; but I am persuaded they would far exceed that number, if we should take the less ones into account; for there is not an inhabitable place without one temple, nor any place of any extent without a considerable number.

"The architecture of the great temples was, for the most part, the same with that of the great Temple of Mexico ; but there were many, likewise, of a different structure. Many consisted of a single body in the form of a pyramid, with a *stair*; others of ordinary bodies, with similar *stairs*.†

"The superstition of these people, not contented with such a great number of temples in their cities, villages, and hamlets, erected many altars upon the tops of hills, in the woods, and in the streets, not only for the purpose of encouraging the idolatrous worship of travellers, but for the celebration of certain sacrifices to the gods of mountains and other rustic deities.‡

"Each temple had its own lands and possessions, and even its own peasants to cultivate them. Thence was drawn all that was necessary for the maintenance of the priests, together with the wood which was consumed in great quantities in the temples. In the kingdom of Acolhuacan, those twenty-nine cities which provided necessaries for the royal palace, were likewise obliged to provide for the temples. There is reason to believe that the tract of country named *Teotlalpan* (land of the gods) was so named from being among the possessions of the temples. There were, besides, great numbers daily of free offerings, from the devout, of every kind of provisions and first fruits, which were presented in returning thanks for seasonable rains and other blessings of heaven. Near the temples were the granaries, where all the grain and other provisions necessary for the maintenance of the priests were kept, and the overplus was annually distributed to the poor, for whom also there were hospitals in the larger towns.

"We may form some conjecture of the immense number of

* Humboldt's "New Spain."

† But the great temple was modelled after temples that existed when the Mexicans invaded the country, those of *Teotihuacan*.

‡ In this the Mexicans were not different from the Romans and other nations of antiquity, not even from some of the present age.

priests in the Mexican empire from the number within the area of the great temple, which some ancient historians tell us amounted to five thousand. Nor will that calculation appear surprising when we consider that in that place there were four hundred priests consecrated to the service of the god Tezcatzencal alone. I should not think it rash to affirm that there could not be less than a million of priests throughout the empire."

There were several different orders and degrees among the priests. The chief of all were the two *high-priests*, to whom they gave the names of *Teoteuctli* (divine lord) and *Hueitcopixqui* (great priest). The high-priests were the oracles whom the kings consulted in all the most important affairs of the state, and no war was ever undertaken without their approbation. It belonged to them to *anoint the king* after his election, and to open the breasts and tear out the hearts of the human victims at the most solemn sacrifice. The high-priest in the kingdom of Acolhuacan was, according to some historians, always the second son of the king. Among the Totonicas he was anointed with the elastic gum mixed with children's blood, and this they called the *divine unction*. Some authors say the same of the high-priest of Mexico.

From what is said it appears that the high-priests of Mexico were the heads of their religion only among Mexicans, and not with respect to the other conquered nations; these, even after being subjected to the crown of Mexico, still maintained their priesthood independent.

The name *Teopixqui* was given to the priests, which means the guard or minister of god.

The *Ometochtlí* was the chief composer of the hymns which were sung at festivals.

The *Tlapixcatzin*, the master of the chapel, not only appointed the music, but superintended the singing and corrected the singers.

All the offices of religion were divided among the priests. Some were the sacrificers, others diviners, some were the composers of hymns, others those who sung. Among the singers some sang at certain hours of the day, others sang at certain hours of the night.

Four times a day they offered *incense* to their idols, viz., at day-break, at mid-day, at sunset, and at midnight. To the Sun they made daily new offerings, four times during the day and five times during the night. For incense they generally made use of copal, or some other aromatic gum, but in certain festivals they employed *Chapololi*, or bitumen of Judea. The *censers* were com-

monly made of clay, but they had also censers of gold. The priests never shaved, by which means the hair of many of them grew so long as to reach to their legs.

The priests had a ridiculous superstitious practice of blowing with their breath on the sick, and made them drink *water which they had blessed* after their manner. They observed many *fasts*, and great austerity of life. They never were intoxicated with drinking, and seldom ever tasted wine. Any incontinence among the priests was severely punished. The priest who at Teotihuacan was convicted of having violated his chastity was delivered up by the priests to the people, who at night killed him by the bastinado.

The office and character of a priest among the Mexicans was not in its nature perpetual, nor was the priesthood confined to the male sex. The first thing done to those females who entered into the service on account of some private vow, was the *cutting off of their hair*. Some of them rose about two hours before midnight, others at midnight, and others at daybreak, to stir up and keep the fire burning, and to offer incense to the idols; and although in their function they assembled with the priests, they were separated from each other, the men forming one wing and the women another, both under the view of their superiors. When a virgin, destined from her infancy to the service of the gods, arrived at the age of sixteen or eighteen, her parents sought for a husband to her.

Among the different orders or congregations, both of men and women, who dedicated themselves to the worship of some particular gods, that of Quetzalcoatl is worthy to be mentioned. The life led in the *monasteries* or colleges of either sex which was devoted to this imaginary god was uncommonly rigid and austere. Another order, called Telpochtliztli, or the youths, on account of its being composed of youths or boys, was consecrated to Tezcatlipoca, was attended with almost the same ceremonies as that of Quetzalcoatl. Among the Totonicas was an order of monks devoted to their goddess Centeotl. They lived in great retirement and austerity. Their number was fixed, and when any one died another was received in his stead.*

The sacrifices varied according to the circumstances of the festival. In general the victims suffered death by having their breasts opened, but others were drowned in the lake; others died of hunger, shut up in caverns of the mountains; and, lastly, some fell in the gladiatorial sacrifice.†

* None but men above sixty years of age, who were widowers, were admitted.

† Clavigero.

In the province of Teutitlan they had the horrible custom of flaying their human victims and wearing their skins. In those of Uzila and Atlantiaca when they lacked slaves for the sacrifices the Cacique had the right to choose the victims from among his subjects.

The Mazatecs had an annual festival which cost their own nation much blood. Some days beforehand the priests, ascending to the top of the temple, made known their orders to the people, to warn them to remain in their houses. They also scattered themselves in the fields, and all those whom they took were marked on the head to serve as victims of sacrifice.

The Tuatecs had every year a bloody sacrifice. They put to death an infant, a chicken, and some other animals, and, contenting themselves with sprinkling the idols with their blood, they abandoned the bodies to the birds of prey; but they slew out of the temple a number of slaves, and ate the carcasses at public feasts.

The Otenies sacrificed only the captives they made in war, but they cut them in pieces, cooked them, and sold them in the public markets.

At the sacrifice in the great temple at Mexico, if the victim was a prisoner of war, as soon as he was sacrificed they cut off his head, to preserve the skull, and threw the body down the stairs to the lower area, where it was taken up by the officer or soldier to whom the prisoner had belonged, and carried to his house to be boiled and dressed as an entertainment for his friends. If he was not a prisoner of war, but a slave purchased for sacrifice, the proprietor carried off the carcass from the altar for the same purpose. They ate only the legs, thighs, and arms, and burnt the rest, or preserved it for food for the wild beasts or birds of prey kept in the royal palaces.

The religion of the Mexicans was not confined to these sacrifices: offerings were made of various kinds of animals. They sacrificed quails and falcons to their god Huitzilopochtli, and hares, rabbits, deer, and coyotes to their god Mixeotl. They daily made an offering of quail to the sun. Every day, as the sun was about to rise, several priests, standing upon the upper area of the temple with their faces towards the east, each with a quail in his hand, saluted that luminary's appearance with music, and made an offering of the quails, after cutting off their heads. This sacrifice was succeeded by the burning of incense, with a loud accompaniment of musical instruments.

They also made offerings of various kinds of plants, flowers,

jewels, gums, and other substances. To their gods Tlaloc and Coatlicae they offered the first-blown flowers, and to Cintecatl the first maize of every year. They made oblations of bread, various pastes, and ready-dressed victuals in such abundance as to be sufficient to supply all the ministers of the temple. Every morning were seen at the foot of the altar innumerable dishes and porringers of boiling food, that the steam arising from them might reach the nostrils of the idols and nourish their immortal gods.

The most frequent oblation, however, was that of copal. All daily burned incense to their idols; no house was without censers; the priests, fathers of families, and judges offered incense to the four principal winds. But incense-offering among the Mexicans and other nations of Anahuac was not only an act of religion towards their gods, but also a piece of civil courtesy to lords and ambassadors.

The superstition and cruelties of the Mexicans were imitated by all the nations which they conquered, or that were contiguous to the empire.

Being accustomed to bloody sacrifices of their prisoners, they also failed not to shed abundance of their own blood. They mangled their flesh as if it had been insensible, and let their blood run in such profusion that it appeared to be a superfluous fluid of the body. The effusion of blood was frequent and daily with some of the priests. They pierced themselves with the sharpest spines of the aloe, and bored several parts of the body, particularly their ears, lips, tongues, and the fat (fleshy parts) of their arms and legs. Through the holes which they made with these spines, they introduced pieces of cane, the first of which were small pieces, but every time this *penitential suffering* was repeated, a thicker piece was used. The blood which flowed from them was carefully collected in leaves of the plant *acxojatl*. They fixed the bloody spines in little balls of hay, which they exposed upon the battlements of the walls of the temple, to testify the *penance* which they did for the people. Those who exercised such severities upon themselves within the enclosure of the great Temple of Mexico bathed themselves in a pond that was formed there, which, from being always tinged with blood, was called *Ezapan*.*

A festival hardly occurred for which they did not prepare them-

* In regard to self-inflicted tortures, they were not as great as those voluntarily suffered at the feast of the Sun by certain western Indian tribes of North America, though infinitely worse than flagellation. To bore the ears, the cartilage of the nostrils, and the lip, were common things among the Indians. It was done to insert what they considered as ornaments.

selves with fasting for some days, more or less, according to the prescription of their rituals. During that of the Sun, the king retired into a certain place of the temple, where he watched and shed blood according to the custom of the nation. Any other fasts bound only particular persons.

In Mixteca there were many *monasteries*.

FUNERAL RITES.—As soon as any person died, certain masters of funeral ceremonies were called. They cut a number of pieces of paper with which they dressed the corpse, and took a glass of water, with which they sprinkled the head, saying that was the water used in the time of their life. They then dressed it in a habit suitable to the rank, wealth, and circumstances attending the death of the party. Gomera has well observed, they wore more garments after they were dead than while they were living.

With the habit, they gave the dead a jug of water, which was to serve on the journey to the other world, and also at successive different times, different pieces of paper, mentioning the use of them. On consigning the first piece to the dead, they said: By means of this you will pass without danger between the two mountains which fight against each other. With the second they said: By means of this you will walk without obstruction along the road which is defended by the great serpent. With the third: By this you will go securely through the place where there is the crocodile Xochitonal. The fourth was a passport through the eight deserts; the fifth, through the eight hills; and the sixth was given to pass, without hurt, through the sharp wind, so violent that it tore up rocks, and so sharp that it cut like a knife.*

One of the chief ceremonies at funerals was the killing of a *techichi*,† a domestic animal resembling a little dog, to accompany the deceased in their journey to the other world. They fixed a string about its neck, believing that necessary to enable it to pass the deep river of Chihuahuapan or New Waters. They buried the techichi, or burned it along with the body of its master, according to the kind of death he died. After burning the body, they gathered the ashes in an earthen pot, among which, according to the circumstances of the deceased, they put a gem of more or less value, which they said would serve him in the place of a heart in the other world. They buried this earthen pot in a deep ditch, and fourscore days after made oblations of bread and wine over it.

* It is probable that the relatives of the dead paid for all these privileges.

† From the description, the techichi appeared to be the hairless dog of Mexico. The Mexicans used its flesh for food. Dogs were the favorite food for Indians. They likewise sacrificed them to the god of Storms.

Such were the funeral rites of the common people ; but at the death of kings, lords, or persons of high rank, some peculiar forms were observed. As soon as a king of Mexico happened to die, his death was published in great form. They laid the corpse upon beautiful, curiously wrought mats, which was attended and watched by his domestics. Upon the fourth or fifth day after, when the lords arrived, who brought with them rich dresses, beautiful feathers, and slaves, to be presented, they clothed the corpse in fifteen or more very fine habits of cotton of various colors, ornamented it with gold, silver and gems, hung an emerald at the upper lip, which was to serve in place of a heart ; covered the face with a mask, and over the habits was placed the ensigns of that god in whose temple or area the ashes were to be buried. They cut off some of the hair, which, together with some more that had been cut off in the infancy of the king, they preserved in a little box, to perpetuate, as they said, the memory of the deceased. Upon the box they laid an image of the deceased, made of wood or of stone. Then they killed the slave who was his chaplain, who had had the care of his oratory and all that belonged to the private worship of his gods, in order that he might serve him in the same office in the other world.

The funeral procession came next, *in which* the nobles carried a great standard of paper and the royal arms and ensigns. Upon their arrival at the lower area of the temple the high-priests, together with their servants, came out to meet the corpse, which, without delay, they placed upon the funeral pile, which was prepared there for that purpose. While the corpse and all its habits, the arms and ensigns, were burning, they sacrificed at the bottom of the stairs of the temple a great number of slaves, of those which belonged to the deceased, and also of those which had been presented by the lords. Along with the slaves they likewise sacrificed some of the deformed men whom the king had collected in his palace for his amusement, in order that they might give him the same pleasure in the other world ; and, for the same reason, they used also to sacrifice some of his wives. The number of victims was proportioned to the grandeur of the funeral, and amounted sometimes, as several historians affirm, to two hundred. Among the other sacrifices, the techichi was not omitted ; they were firmly persuaded that, without such a guide, it would be impossible to get through some dangerous ways which led to the other world.

The day following the ashes were gathered, and the teeth which remained entire ; they sought carefully for the emerald which had been hung to the upper lip, and the whole was put into the box

with the hair, and they deposited the box in the place destined for his sepulchre. The four following days they made oblations of eatables over the sepulchre; on the fifth they sacrificed some slaves, and also some others on the twentieth, fortieth, sixtieth, and eightieth day after. From that time forward they sacrificed no more human victims.

The bodies of the dead were, in general, burned. There were no fixed places for burials. Many ordered their bodies to be buried near some temple or altar, some in fields, and others in those sacred places of the mountains where sacrifices used to be made. The ashes of the kings and lords were, for the most part, deposited in the towers of the temples, especially those of the great temple. Close to Teotihuacan there were many temples; there were also innumerable sepulchres. The tombs of those whose bodies had been buried entire, agreeable to the testimony of the Anonymous Conqueror, who saw them, were deep ditches formed with stone and lime, within which they placed the bodies in a sitting posture upon low seats, together with the instruments of his art or profession. If it was the sepulchre of any military person, they laid a shield and sword by him; if a woman a spindle, a weaver's shuttle, and a *xicalli*—a naturally-formed vessel. In the tombs of the rich they put gold and jewels, but all were provided with eatables for the long journey they had to make. The Spanish conquerors, knowing of the gold which was buried with the Mexican lords in their tombs, dug up several and found considerable quantities of that precious metal. Cortes says, in his letters, that at one entry which he made into the capital when it was besieged by his army, his soldiers found fifteen hundred Castellanos—that is, two hundred and forty ounces of gold—in one sepulchre which was in the tower of a temple. The Anonymous Conqueror says also that he was present at the digging up of another sepulchre from which they took about three thousand Castellanos.

For the defence of places they made use of various kinds of fortifications, such as walls and ramparts, with their breastworks, palisades, ditches and entrenchments. Concerning the city of Quauhquechollan, we know that it was fortified by strong stone walls, about twenty feet high and twelve feet in thickness.

The conquerors, who describe to us the fortifications of this city, make mention likewise of several others, among which is the celebrated wall which the Tlascalans built on the eastern boundaries of the republic, to defend themselves from the invasion of the Mexican troops, and in other places. This wall, which stretched

from one mountain to another, was six miles in length, eight feet in height, besides the breastworks, and eighteen feet in thickness. It was made of stone and strong fine mortar. There was but one narrow entrance, about eight feet broad and forty paces long. This was the space between the two extremities of the wall, the one of which encircled the other, forming two semicircles with one common centre. There are still some remains of this wall to be seen.*

Quauhquechollan, south, distant about four miles from Tepejacac, was a city containing from five thousand to six thousand families, pleasantly situated, and not less fortified by nature than by art. It was naturally defended on one side by a steep, rocky mountain, and on another side by two parallel-running rivers. The whole of the city was surrounded by a strong wall of stone and lime, about twenty feet high and twelve broad, with a breast-work all round of about three feet in height. There were but four ways to enter, at those places where the extremities of the walls were doubled, forming two semicircles (overlapping one another), with the passage between them. The difficulty of the entrance was increased by the elevation of the site of the city, which was almost equal to the height of the wall itself, so that in order to enter, it was necessary to ascend by some very steep steps.

There are also still to be seen the remains of an ancient fortress built upon the top of a mountain, at a little distance from the village of Molcaxac, surrounded by four walls, placed at some distance from each other, from the base of the mountain unto the top. In the neighborhood appeared many small ramparts of stone and lime, and upon a hill two miles distant from the mountain are the remains of some ancient and populous city, of which, however, there is no memory among historians. About twenty-five miles from Cordova, towards the north, is likewise the ancient fortress of Quauhtcho, now Guatusco, surrounded by high walls of extremely hard stone, to which there is no entrance but by ascending a number of very high and narrow steps, for in this manner the entrances to these fortresses were formed. From the ruins of this ancient building, which is now overrun with bushes, a Cordovan gentleman lately dug out several well-finished statues of stones, for the ornament of his house. Near the ancient city

* Francisco Severio Clavigero, born at Vera Cruz, South America, about 1720; died at Cesena, in Italy, October, 1793. Cullen's English version of Clavigero's "History of Mexico" in Italian, was published in 1787.—*Chambers's Encyclopaedia*.

of Tezcoco, a part of the wall which surrounded the city of Coatlichan is still preserved.

In regard to the Tlascalan wall, Bernal Diaz says: "We came upon an enormous entrenchment, built so strongly of stone, lime and a kind of hard bitumen, that it would only have been possible to break it down by means of pickaxes, and if defended would have with difficulty been taken. We halted on purpose to inspect this fortification, and Cortes inquired of the Zocotlans for what purpose it stood there. They told him it was built there by the Tlascalans, against the great Montezuma, with whom they were continually at war, to protect them against his hostile incursions."

Torquemada says: "It was a wall of twenty feet in thickness; that it could be defended from the top; had only one entrance, defended by other works within, and was built by a cacique of the country* to protect the boundaries of his country against the incursions of the Tlascalans. But the most singular fortifications of Mexico were the temples themselves, and especially the great temple, which resembled a citadel. The wall which surrounded the whole of the temple, the five arsenals there which were filled with every sort of defensive and offensive arms, and the architecture of the temple itself, which rendered the ascent to it so difficult, give us clearly to understand that in such buildings policy as well as religion had a share, and that they constructed them not only from motives of superstition, but likewise for the purpose of defence. It is well known, from their history, that they fortified themselves in their temples when they could not hinder the enemy from entering the city, and from them harassed them with arrows, darts and stones."†

CHAPTER XIV.

The Toltecs—Their Migration—Their Character—Their Knowledge of Astronomy—Their National Extinction and Their Dispersion.

THE TOLTECS THE FIRST SETTLERS OF ANAHUAC.

THE history of the first peopling of Anahuac is so involved in fable that it is altogether impossible to discover the truth. There cannot be a doubt that the men who first peopled that country

* Whom he calls Yztacmixtitlan.

† Clavigero.

came originally from the more northern parts of America, where their ancestors had been settled for many ages, but who these first inhabitants were at the time of their emigration is entirely unknown.

The Toltecs are the oldest nation of which we have any knowledge, and that is very imperfect. Being banished, as they tell us, from their own country, Huehuetlapallan, which we take to have been in the kingdom of *Tollan*,* from which they derived their name, and situated to the southwest of Mexico. They began their journey in the year 1, *Tecpatl*—that is, in the year 596 A.D. In every place to which they came they remained no longer than they liked it. In this wandering manner did they travel, always southward, for the space of one hundred and four years, till they arrived at a place to which they gave the name of *Tollantzinco*, about fifty miles to the east of that spot where, some centuries after, was founded the famous city of Mexico.

They were led and commanded upon the whole journey by certain chiefs, who were reduced to seven by the time they arrived at *Tollantzinco*. They did not choose, however, to settle in that country. In less than twenty years after they went about forty miles to the west, where, along the banks of a river, they founded the city of *Tollan or Tula, after the name of their native country*. That city, the oldest, as far as we know, in Anahuac, is one of the most celebrated in the history of Mexico, and was the capital of the Toltecán kingdom. Their monarchy began in the year 607 A.D. and lasted three hundred and eighty-four years.

The Toltecs were the most celebrated people of Anahuac for their superior civilization and skill in the arts. They always lived in society, collected in cities, under the government of kings and regular laws. They were not very warlike, and less trained to the exercise of arms than to the cultivation of the arts. The nations that have succeeded them have acknowledged themselves indebted to the Toltecs for their knowledge of the culture of grain, cotton, pepper, and other useful fruits. They had the art of casting gold and silver and melting them into whatever form they pleased, and acquired the greatest reputation from cutting all kinds of gems; but nothing, to us, raises their character so high as their having been the inventors, or, at least, the reformers of that system of the arrangement of time which was adopted by all

* “Toltecotl, in Mexican, signifies a native of *Tollan*, as *Tlazcaltecol* does a native of *Tlescalá*.”

the nations of Anahuac, and which implies numerous observations and a wonderfully correct astronomy.

Boturini, upon the faith of the ancient histories of the Toltecas, says, that observing in their own country of Huehuetlapallan, how the solar year exceeded the civil one, by which they reckoned, about six hours, they regulated it by interposing the intercalary day once in four years, which they did more than a hundred years before the Christian era. He says, besides, that in the year 660, under the reign of Ixtlalcuechahuac, in Tula, a celebrated astronomer called Huematzin assembled, by the king's consent, all the wise men of the nation, and with them painted that famous book called Teoamoxli, or Divine Book, in which were represented in very plain figures *the origin of the Indian, their journey in Asia*, their first settlements upon the continent of America, the founding of the kingdom of Tula, and their progress till that time. There were described the heavens, the planets, the constellations, the Toltec calendar with its cycles, the mythological transformations, in which were included their moral philosophy, and the mysteries of their deities, concealed by hieroglyphics from common understanding, together with all that appertained to their religion and manners.*

It is certain, however incredible as it may appear to the critics of Europe, who are accustomed to look upon the Americans as all equally barbarous, that the Mexicans and all the other civilized nations of Anahuac regulated their civil year according to the solar by means of the intercalary days, in the same manner as the Romans did after the Julian arrangement; and that this accuracy was owing to the skill of the Toltecas. Their religion was idolatrous, and they appear by their history to have been the inventors of the greatest part of the mythology of the Mexicans; but we do not know that they practiced those barbarous and bloody sacrifices which became afterwards so common among other nations.

The Tezcucan historians believe the Toltecas the authors of that famous idol, representing the god of water, placed on Mount *Tlaloe*.† It is certain that they built in honor of their beloved god

* This shows they must have been highly civilized and intelligent when they left Asia, or that they made wonderful progress in the short space of fifty-seven years from the founding of their city Tula, in Mexico.

† This image was in the shape of a man sitting on a white and very light stone, with a vessel before him in which were some elastic gum and a variety of seeds. This was their yearly offering, by way of rendering thanks after having had a favorable harvest. This image was reckoned the oldest in that country,

Quetzalcoatl, the highest pyramid of Cholula, and probably also the famous ones of Teotihuacan, in honor of the sun and moon, which are still in existence, though much disfigured.

During the four centuries which the monarchy of the Toltecas lasted, they multiplied considerably, extending their population every way in numerous and large cities, but the direful calamities that happened to them in the first year of the reign of Topiltzin gave a fatal shock to their prosperity and power. For several years heaven denied to them the necessary showers to their fields and the earth, the fruits of which supported them. The air, infected with mortal contagion, filled daily the graves with the dead, and the minds of those surviving, with consternation at the destruction of their countrymen. A great part of the nation died by famine and sickness. Topiltzin died in the second year, *Tec-pall*, in the twentieth of his reign, which was probably the year 1052 of the vulgar era, and with him the Toltecан monarchy concluded. The wretched remains of the nation, willing to save themselves from the common calamity, sought timely relief to their misfortunes in other countries. Some directed their course to *Onohualco*, or Yucatan, some to Guatemala, while some families stopped in the kingdom of Tula and scattered themselves in the great valley where Mexico was afterwards founded; some in Cholula, Tlaximoloyan, and other places, and among these were the two sons of Topiltzin, whose descendants, in course of time, intermarried with the royal families of Mexico, Tezcuco and Colhuacan.*

After the destruction of the Toltecas, for the space of one century, the land of Anahuac remained solitary and almost entirely depopulated, until the arrival of the Chechemecas.†

for it had been placed upon that hill by the ancient Toltecas. It being replaced by another, the latter was struck by lightning, and the former then restored and continued to be preserved and worshipped until it was thrown down and broken by the order of the first bishop of Mexico.

* The Toltecан Monarchy terminated probably in the year 1052 of the vulgar era. Mexico, city, was founded 'in the year 1325.' The destruction of the Toltecан monarchy may be but one instance among many where the nations of America have perished by pestilence and famine, and probably wars have been the destruction of many more than have perished by pestilence and famine. "In large states the calamities in one part may be relieved by the prosperity in another, but in small states there are no such advantages, and the inhabitants perish or migrate."

† Torquemada does not allow more than eleven years of interval between the destruction of the Toltecas and the arrival of the Chechemecas. Chechemecas is probably the same as Chetimucas, a tribe of Indians who dwelt on a lake near the Lafourche, in Louisiana, in the year 1703; the latter probably being descended from the former.

CHAPTER XV.

Mexican Chronology—Abbe Don Lorenzo Herva's Letter to the Abbe Don Francesco Saverio Clavigero, on the Mexican Calendar.

THE Mexicans, the Acolhuans, and all the other nations of Anahuac, distinguished *four ages* of time by as many suns. The *first*, named *Atonatiuh*, that is the sun, or the age of water, commenced with the creation of the world, and continued until the time at which almost all mankind perished in a general inundation along with the first sun. The *second*, *Tlaltonatiuh*, the age of earth, lasted from the time of the general inundation until the ruin of the giants, and the great earthquakes, which concluded in a like manner the second sun. The *third*, *Ehecatonatiuh*, the age of air, lasted from the destruction of the giants until the great whirlwinds, in which all mankind perished along with the third sun. The *fourth*, *Tletonatiuh*, the age of fire, began at the last restoration of the human race, and was to continue until the fourth sun and the earth were destroyed by fire. This age, it was supposed, would end at the conclusion of one of their centuries, and thus we may account for these noisy festivals in honor of the god of fire, which were celebrated at the beginning of every century, as a thanksgiving for his restraining his voracity, and deferring the termination of the world.

The Mexicans and other polished nations of Anahuac used the same methods to compute centuries, years and months, as the ancient Toltecas. Their century consisted of fifty-two years, which were subdivided into four periods of thirteen years each, and two centuries formed an age of one hundred and four years, though some authors have given the name of century to their age, and that of half-century to their century, but it is of little consequence, as their manner of computing years and distributing time is not in the least altered by it. Their years had four names, which were *Tochtli*, rabbit; *Acatl*, cane; *Tecpatl*, flint; and *Calli*, house; and of these with different numbers their century was composed. The first year of the century was 1, Tochtli; the second 2, Acatl; the third 3, Tecpatl; the fourth 4, Calli; the fifth 5, Tochtli; and so on to the thirteenth year, which was 13, Tochtli and terminated the first period. They began the second period with 1, Acatl, which was succeeded by 2, Tecpatl; 3, Calli; 4, Tochtli, until it was completed by 13, Acatl. In like manner the third

period began with 1, Teepatl and finished with 13, Tecpatl; and the fourth commenced with 1, Calli and terminated together with the century in 13, Calli; so that, there being four names and thirteen numbers, no one year could be confounded with another.

The Mexican year consisted like ours of three hundred and sixty-five days; for although it was composed of eighteen months each of twenty days, which made only three hundred and sixty, they added after the last month five days. The year 1, Tochtli, the first of their century, began on the 26th of February, but every four years the Mexican century anticipated a day on account of the odd day of our leap year, from whence in the last year of the Mexican century the year began on the 14th of February, on account of the thirteen days which intervened in the course of fifty-two years. But at the expiration of the century the commencement of the year returned to the 26th of February.

The names which they gave their months were taken both from the employments and festivals which occurred in them, and also from the accidents of the seasons which attended them. Their arrangement was not only different among different nations, but even among the Mexicans.

Their months consisted of twenty days, their names are:

- | | |
|-----------------|--------------------|
| 1. Cipactli, | 11. Ozomatli, |
| 2. Ehecatl, | 12. Malinalli, |
| 3. Calli, | 13. Acatl, |
| 4. Cuetzpalin, | 14. Ocelotl, |
| 5. Coatl, | 15. Quauhtli, |
| 6. Miquiztli, | 16. Cozcaquahatl, |
| 7. Mazatl, | 17. Olin tonatiuh, |
| 8. Tochtli, | 18. Tecpatl, |
| 9. Atl, | 19. Quiahuitl, |
| 10. Itzcuintli, | 20. Xochitl. |

In their mode of reckoning no regard was paid to the division of months, nor that of years, but to periods of thirteen days (similar to those of thirteen years in a century), which ran on without interruption from the end of a month or year. The first day of the century was 1, Cipactli; the second 2, Ehecatl, or *wind*; the third 3, Calli, a *house*; and so on to thirteen, which was 13, Acatl, or *reed*. The fourteenth day began another period, reckoning 1st, Ocelotl (*tiger*); 2d, Quauhtli (*eagle*), etc., until the completion of the month; 7, Xochitl (*flower*); and in the next month they continued to count 8, Cipactli; 9, Ehecatl, etc. Twenty of these periods made in thirteen months a cycle of two hundred and sixty days, and during the whole of

this time the same sign or character was not repeated with the same number. On the first day of the fourteenth month another cycle commenced in the same order of the characters, and of the same number of periods as the first. If the year had not, besides the eighteen months, had the five days called *Nemontemi*, or if the periods had not been continued in these days, the first day of the second year of the century would have been the same with that of the preceding 1st Cipactli; and in like manner the last day of every year would always have been Xochitl; but as the period of thirteen days was continued through the days called *Nemontemi*, on that account the signs or characters changed place, and the sign *Miquiztli*, which occupied in all the months of the first year the sixth place, occupies the first in the second year; and on the other hand the sign Cipactli, which in the first year had occupied the first place, has the sixteenth in the second year. To know what ought to be the sign of the first day of any year, there is the following general rule: Every year Tochtli begins with Cipactli; every year Acatl with Miquiztli; Tecpactl with Ozomatli; and Calli with Cozcaquahtli, adding always the number of the year to the sign of the day; as, for example, the year 1st Tochtli has for the first day 1st Cipactli; so the second, Acatl, has 2d Miquiztli; the third, Tecpactl, has three, Ozomatli; and, fourth, Calli has four, Cozaquahtli, etc.*

From what we have already said it will appear that the number thirteen was held in high estimation by the Mexicans. The four periods of which the century consisted were each of thirteen years; the thirteen months formed their cycle of two hundred and sixty days, and thirteen days their smaller periods. The origin of their esteem for this number was, according to what Siguenza has said, that thirteen was the number of their greater gods. The number four seems to have been no less esteemed among them. As they reckoned four periods of thirteen years each to their century, they also reckoned thirteen periods of four years, at the expiration of each of which they made extraordinary festivals.

In respect to civil government, they divided the month into four periods of five days, and on a certain fixed day of each period their fair or great market was held; but being governed, even in

* "Boturini says the year of the Rabbit (*Tochtli*) began uniformly with the day of the Rabbit, the year of the Cane with the day of the Cane, etc., and never with the days we have mentioned; but we ought to give more faith to Siguenza, who certainly was better informed in Mexican antiquity than Boturini. The system of this gentleman is fantastical and full of contradictions."

political matters, by principles of religion in the capital, this fair was kept on the days of the Rabbit, the Cane, the Flint, and the House, which were their favorite signs.

The Mexican year consisted of seventy-three periods of thirteen days, and the century of seventy-three periods of thirteen months, or cycles of two hundred and sixty days.

It is certainly not to be doubted that the Mexican or Toltec system of the distribution of time was extremely well digested, though at first view it appears rather intricate and perplexed; hence we may infer with confidence that it was not the work of a rude or unpolished people. That, however, which is most surprising is their method of computing time, and what will certainly appear improbable to readers who are but little informed with respect to Mexican antiquity, is, that having discovered the excess of a few hours in the solar above the civil year, they made use of intercalary days to bring them to an equality, but with this difference in regard to the method established by Julius Cæsar in the Roman calendar, that they did not interpose a day every four years, but thirteen days every fifty-two years, which produces the same regulation of time. At the expiration of the century they broke all their kitchen utensils, fearing that then, also the fourth age, the sun and all the world were to be ended, and the last night they performed the famous ceremony of the *new fire*. As soon as they were assured by the new fire that a new century was granted them by the gods, they employed the thirteen following days in supplying their kitchen utensils, in furnishing new garments, in repairing their temples and houses, and in making every preparation for the grand festival of the new century. These thirteen days were the intercalary days represented in their paintings by blue points. They were not included in the century just expired, nor in that which was just commencing, nor did they continue in them their period of days, which they always reckoned from the first day to the last day of this century. When the intercalary days were elapsed, they began the new century with the year 1, Tochtli, and the day 1, Cipactli, upon the 26th day of our February, as they did at the beginning of the preceding century. We would not venture to relate these particulars if we were not supported by the testimony of Dr. Siguenza, who, in addition to his great learning, his critical skill and sincerity, was the person who most diligently exerted himself to illustrate these points, and consulted both the best instructed Mexicans and Tezcucans, and studied their histories and paintings.

Two things must appear truly strange in the Mexican system.

The one is, that they do not regulate their months by the changes of the moon; the other, that they use no particular character to distinguish one century from another. But with respect to the first, we do not mean that their astronomical months did not accord with the lunar periods, because we know that their year was justly regulated by the sun, and because they used the same name, which was Metzli, indifferently for month or moon. The month now mentioned by us is their religious month, according to which they observed the celebration of festivals and practiced divination; not their astronomical months, of which we know nothing, unless that it was divided into two periods—that is, into the period of *watching*, and into that of *sleep*, of the moon. We are, however, persuaded that they must have made use of some character to distinguish one century from another, as this distinction was so very easy and necessary; but we have not been able to ascertain this upon the authority of any historian.

The distribution of the signs or characters, both of days and years, served the Mexicans as superstitious prognostics, according to which they predicted the fortunes of infants from the sign under which they were born, and the happiness or misfortune of marriages, the success of wars, and of every other thing from the day on which they were undertaken or put in execution. To represent the month they painted a circle divided into twenty figures, signifying twenty days. To represent the year they painted another which they divided into eighteen figures of the eighteen months, and frequently painted within the circle the image of the moon. The century was represented by a circle divided into fifty-two figures, or, rather by four figures which were thirteen times designed. They used to paint a serpent twisted about the circle, which pointed out, by four twists of his body, the four principal winds, and the beginning of the four periods of thirteen years.

The method adopted by the Mexicans to compute months, years, and centuries was common to all the polished nations of Anahuac, without any variation except in the names and figures. The Chia-panese, who among the tributaries to the crown of Mexico were the most distant from the capital, instead of the names and the figures of the Rabbit, the Cane, Flint and House, made use of the names of Votan, Lambat, Been and Chinau; and instead of the names of the Mexican days, they adopted the names of twenty illustrious men among their ancestors, among which the four names above mentioned occupied the same places that the names Rabbit, Cane, Flint and House held among the Mexican days.

The following is an abridgment of a letter upon the Mexican

Calendar, addressed by the Abbé Don Lorenzo Hervas to Clavigero :

From the work of your Reverence, I learn with infinite pain how much is to be regretted the loss of those documents which assisted the celebrated De Siguenza to form his Ciclography; and the Cav. Boturini to publish his "Idea of the General History of New Spain."

The year and century have from time immemorial been regulated by the Mexicans with a degree of intelligence which does not at all correspond with their arts and sciences. In them they were certainly extremely inferior to the Greeks and Romans; but the discernment which appears in their calendar equals those of the most cultivated nations. Hence we ought to imagine that this calendar has not been the discovery of the Mexicans, but a communication from some more enlightened people. And as the last are not to be found in America, we must seek for them elsewhere, in Asia or in Egypt. This supposition is confirmed by your affirmation that the Mexicans had their calendar from the Toltecas (*originating from Asia*), whose year, according to Boturini, was exactly adjusted by the course of the sun more than a hundred years before the Christian era, and also from observing that other nations, namely, the Chiapanese, made use of the same calendar with the Mexicans, without any difference but that of their symbols.

The Mexican year began upon the 26th of February, a day celebrated in the era of Nabonassar, which was fixed by the Egyptians seven hundred and forty-seven years before the Christian era, for the beginning of their month *Toih*, corresponded with the meridian of the same day. If these priests fixed also upon this day as an epoch, because it was celebrated in Egypt,* we have then the Mexican calendar agreeing with the Egyptian. But independent of this, it is certain that the Mexican calendar conformed greatly with the Egyptian.

On this subject Herodotus says† that the year was first regulated by the Egyptians, who gave to it twelve months of thirty days, and added five days to every year, that the circle of the year might revolve regularly; that the principal gods of Egypt were twelve in number; and that each month was under the tutelage

* "On the 26th day of February of the above-mentioned year, the year, according to the meridian of Alexandria, which was built three centuries after, properly began."—Q. Curt., lib. iv., c. 21. (See *La Lande Astronomie*, n. 1597.)

† Herod., lib. ii., cap. 1 and 6.

and protection of one of these gods. The Mexicans also added to every year five days which they called Nemontemi, or useless, because during these they did nothing. Plutarch says,* that in such days the Egyptians celebrated the festival of the birth of their gods.

It is certainly true that the Mexicans divided their year into eighteen months, not into twelve, like the Egyptians; but, as they called the month *mizlli*, or moon, it seems undeniable that their ancient month had been lunar, as well as that of the Egyptian and Chinese, the Mexican month verifying that which the Scriptures tell, *that the month is obliged for its name to the moon.*† The Mexicans, it is probable, received the lunar month from their ancestors, but for certain purposes afterwards instituted another. You have affirmed in your history, upon the faith of Boturini, that the Miztecas formed their year into thirteen months, which number was sacred in the calendar of the Mexicans, on account of their thirteen principal gods, in the same manner as the Egyptians consecrated the number twelve on account of their twelve great gods.

The symbols and periods of years, months, and days in the Mexican calendar is truly admirable. With respect to the periods, it appears to me that the period of five days might not improperly be termed their civil week, and that of thirteen their religious week. In the same manner the period of twenty days might be called their civil month, that of twenty-six their religious month, and that of thirty their lunar and astronomical month. In their century it is probable that the period of four years was civil and that of thirteen religious. From the multiplication of these two periods they had their century, and from the duplication of their century their age of one hundred and four years. In all those periods an art is discovered not less admirable than that of our indictions, cycles, etc. The period of civil weeks was contained exactly in their civil and astronomical months; the latter had six, the former four, and the year contained seventy-three complete weeks, in which particular our method is excelled by the Mexican; for our weeks are not contained exactly in the month nor in the year. The period of religious weeks was contained twice in their religious month and twenty-eight times in the year; but in the latter there remained a day over, as there is in our

* Plutarch, de Isike Osiride.

† The Abbe must have thought all his readers were, or ought to be, as well versed in the sacred Scriptures as himself, since he has no note of reference in regard to this statement.

weeks. From the period of thirteen days multiplied by the twenty characters of the month, the cycle of three hundred and sixty days was produced; but, as there remained a day over the twenty-eight religious weeks of the solar year, there arose another cycle of two hundred and sixty days in such a manner that the Mexicans could from the first day of every year distinguish what year it was. The period of civil months multiplied by the number of days (that is, eighteen by twenty) and the period of the lunar months multiplied by the number of days (that is, twelve by thirty), gave the same product, or the number three hundred and sixty—a number certainly not less memorable, and in use among the Mexicans, then among the most ancient nations, and a number which, from time immemorial, has ruled in geometry and astronomy, and is of the utmost particularity, on account of its relation to the circle, which is divided into three hundred and sixty parts or degrees. In no nation of the world do we meet with anything similar to this clear and distinct method of calendar. From the small period of four years multiplied by the above-mentioned cycle of two hundred and sixty years, arose another admirable cycle of ten hundred and forty years. The Mexicans combined the small period of four years with the period above-named of thirteen years; thence resulted their noted cycle or century of fifty-two years; and thus, with the four figures, indicating the period of four years, they had, as we have from the Dominical Letters, a period which, to say the truth, excelled ours, as it is of twenty-eight years and the Mexican of fifty-two; this was perpetual, and ours in Gregorian years is not so. So much variety and simplicity of periods, of weeks, months, years, and cycles, cannot be unadmired, and the more so as there is immediately discovered that particular relation which these periods have to many different ends, which Boturini points out by saying: "The Mexican calendar was of *four* species—that is, *natural*, for agriculture; *chronological*, for history; *ritual*, for festivals; *astronomical*, for the course of the stars, and the year was lunisolar." This year, if we do not put it at the end of three Mexican ages, after several calculations I am not able to find it.

Eclipses are noted in Mexican paintings. Although all the circumstances of eclipses are not described, yet the defects of them are remedied by many eclipses which are marked there.

Respecting the symbols of the Mexican months and year, they discover ideas entirely conformable with those of the ancient Egyptians. The latter distinguished, as appears from their monuments, each month or part of the zodiac, where the sun stood,

with characteristic figures of that which happened in every season of the year. Therefore we see the signs of Aries, Taurus, and the two young Goats (which now are Gemini) used to mark the months of the birth of these animals; the signs of Cancer, Leo, and Virgo, with the ear of corn, for those months in which the sun goes backward like a crab, in which there is great heat, and in which the harvests are reaped. The sign of the Scorpion (which, in the Egyptian sphere, occupied the space which at present is occupied by the sign Libra), and that of Sagittarius, in the months of virulent or contagious distempers, and the chase; and, lastly, the signs of Capricorn, Aquarius, and Pisces, in those months in which the sun begins to ascend towards others, in which it rains much, and in which there is abundant fishing. These ideas, at least, are similar to those which the Mexicans associated with their clime. They called their first month, which began on the 26th of February, *Acahualco*—that is, the cessation of water—and they symbolized this month by a house with the figure of water above it; they gave also to the same month the name *Quahuitehua*—that is, the moving or budding of trees. The first Acahualco did not correspond with their climate, where the rains came in October, but it agrees with the fields of Senna and the northern climes of America from whence their ancestors came.* The symbol of the second Mexican month was a pavilion. The symbol of the third month was a bird that appeared at that time. The twelfth and thirteenth months had for their symbol the plant *pactli*, which springs up and matures in these months. The symbol of the fourteenth month was expressed by a cord and a hand which pulled it, expressive of the binding power of the cold in that month, which is January; and to this same circumstance the name *Tititl*, which they gave it, alludes. The constellation *Kefil*, of which Job speaks to signify winter, signifies in the Arabic root (which is *Kefal*) to be cold and asleep, and in the text of Job it is read, “Couldst thou break the cords or ties of Kefil?”

Lastly, the symbol which you have put for the Mexican century convinces me that it is the same which the ancient Egyptians and Chaldeans had. In the Mexican symbol, we see the sun as it were eclipsed by the moon, and surrounded with a serpent, which makes four twists and embraces the four periods of thirteen years. This very idea of the serpent with the sun has, from time immemorial in the world, signified the periodical and annual course

* If it conforms with the climate of Karakorum, it would give an additional reason for believing that the Toltecs came from that region where is the river and desert of Tolla or Tula.

of the sun. We know that in astronomy, the points where the eclipses happen have, from time immemorial, been called the head and tail of a dragon. The Chinese, from false ideas, though conformable to this immemorial allusion, believe that at eclipses a dragon is in the act of devouring the sun. The Egyptians more particularly agree with the Mexicans, for to symbolize the sun they employed a circle, with one or two serpents; but still more the ancient Persians, among whom their Mitas (which was certainly the sun) was symbolized by a sun and a serpent; and from Montfaucon we are given in his "Antiquities" a monument of a serpent, which, surrounding the signs of the zodiac, cuts them, by rolling itself in various modes about them. In addition to these incontestable examples, the following reflection is most convincing: There is not a doubt that the symbol of the serpent is a thing totally arbitrary to signify the sun, to which it has no physical relation; wherefore then, I ask, have so many nations dispersed over the globe, and of which some have had no reciprocal intercourse, unless *in the first ages of the deluge*, agreed in using one same symbol so arbitrary, and chose to express by it the same object? When we find the word *sacco* in the Hebrew, Greek, Teutonic, Latin, languages, etc., it obliges us to believe that it belongs to the primitive language of men after the deluge, and when we see one same arbitrary symbol, signifying the sun in his course, used by the Mexicans, the Chinese, the ancient Egyptians and Persians, does it not prompt us to believe that the real origin of it was in the time of Noah or the first men after the deluge? This fair conclusion is strongly confirmed by the Chiapanese Calendar (which is totally Mexican). Many similar reflections are suggested by the observations and remarks which occur in your history, etc.

CESENA, July 31, 1780.

So far the letter of Sig. Ab. Hervas.

Whatever may have been the truth respecting the use of the solar year among these first men, in which dispute I do not mean to engage, I cannot be persuaded that the Mexicans, or the Toltecas, have been indebted to any nation of the old continent for their calendar and their method of computing time. From whom did the Toltecas learn their age of one hundred and four years; their century of fifty-two years; their year of eighteen months; their months of twenty days; their periods of thirteen years and thirteen days; their cycle of two hundred and sixty days; and in particular their thirteen intercalary days at the end of the century, to adjust the year with the course of the sun? The Egyptians were

the greatest astronomers of those remote times, but they adopted no intercalary space to adjust the year to the annual retardation of the solar course. If the Toltecas of themselves discovered that retardation, it is not to be wondered at if they discovered other things which did not require such minute and prolix astronomical observations. Boturini, of whose testimony Abbe Hervas avails himself, says expressly, upon the faith of the annals of the Toltecas, which he saw, that the ancient astronomers of that nation having observed in their native country, Huehuetlapallen (a northern country of America), the excess of about six hours of the solar over the civil year which was observed among them, corrected it by the use of intercalary days, more than one hundred years before the Christian era.—*Clavigero.*

C H A P T E R X V I.

Mexican Festivals—The Worship of Fire—Fathers Garces and Font's Visit to the Gila and the Moqui—The Rio Grande Basin—The Pueblos of the Rio Grande—The Rio Verde—The Rio Gila—Casa Blanca or Casa Montezuma and Casa Grande of the Gila—The Casas Grandes of the Rio Casas Grandes—New Mexico When First Discovered—The Journey of Espejo through New Mexico in 1582—Its Cities and People in 1582.

THERE was no month in which the Mexicans did not celebrate some festival or other, which was either fixed and established to be held on a certain day of the month, or movable, from being annexed to some signs which did not correspond with the same days in every year. The principal movable festivals, according to Boturini, were sixteen in number, among which the fourth was that of the god of wine, and the thirteenth that of the *god of fire*.

In the third month, which began the 7th of April, those who traded in flowers celebrated the festival of the goddess *Coatlicue*, and presented her garlands of flowers. But before this offering was made, no person was allowed to smell these flowers. The ministers of the temples watched every night of this month, and on that account made *great fires*.

In the eighth month, which began the 16th of July, they made a solemn festival to the goddess Centeotl. The festival continued eight days. At sunset, when the feasting of the populace was ended, the priests had their dances, which continued four hours, and on that account there was a *splendid illumination in the temple*.

The tenth month, the beginning of which was on the 25th of August, they kept the festival of *Xiuhteuctli, god of fire*.

In the fourteenth month, which commenced on the 13th of November, was the festival of Mixcoatl, goddess of the chase. It was preceded by four days of rigid and general fasting, accompanied with the effusion of blood, during which time they made arrows and darts for the supply of their arsenals, and also small arrows which they placed, together with pieces of pine and some meats, upon the tombs of their relations, and after one day *burned them*.

In the eighteenth and last month, which began the 1st of February, the second festival of the *god of fire* was held, and the tenth day of this month the whole of the Mexican youth went out to the chase, not only of wild beasts in the woods, but also to catch the birds of the lake. On the sixteenth the *fire of the temple and private houses was extinguished*, and they kindled it anew before the idol of that god.

The festival which was celebrated every fifty-two years was by far the most splendid, and the most solemn, not only among the Mexicans, but likewise among all the nations of that empire, or which were neighboring to it. On the last night of this century they extinguished the fires of all the temples and houses, and broke their vessels, earthen pots, and all other kitchen utensils,* preparing themselves in this manner for the end of the world, which at the termination of each century they expected with terror. The priests, clothed in various dresses and ensigns of their gods, and accompanied by a vast crowd of people, issued from the temple out of the city, directing their way toward the mountain *Huixachila*, near the city of Iztapalapan, upwards of six miles distant from the capital. They regulated their journey in some measure by observation of the stars, in order that they might arrive at the mountain a little before midnight, on the top of which the new fire was to be kindled. In the meantime the people remained in the utmost suspense and solicitude. All those who did not go out with the priests mounted upon terraces to observe from thence the event of the ceremony. The office of kindling the fire on this occasion belonged exclusively to a priest of *Copolco*, one of the districts of the city. The instruments for this purpose were two pieces of wood, and the place in which the fire was produced from them was the breast of some brave prisoner whom they sacrificed. As soon as the fire was kindled, they all at once exclaimed with joy; and a great fire was made on the mountain, that it might be seen from afar, in which they afterwards burned the

* May not this custom in part account for the *broken pottery* found scattered everywhere where there has been an ancient settlement?

victim whom they had sacrificed. Immediately they took up portions of the sacred fire, and strove with each other who should carry it most speedily to their houses. The priests carried it to the great Temple of Mexico, from whence all the inhabitants of that capital were supplied with it. During the thirteen days which followed the renewal of the fire (which were the intercalary days interposed between the past and the ensuing century to adjust the year with the course of the sun) they employed themselves in whitening and repairing the public and private buildings, and in furnishing themselves with new dresses and domestic utensils, in order that everything might be new, or at least appear to be so, upon the commencement of the new century.*

The ancient worship of fire existed among the American Indians from time immemorial. It is found in the traditions as in the history of almost all nations which have had temples and altars in which was a pyre, a hearth, a brazier, in order to entertain continually the fire used in their sacrifices. The Greeks adored fire under the name of *Haitos*, and the Latins under the name of *Vesta*.† Father Charlevoix represents the tribes of Louisiana, and especially the ancient tribe of the Natchez, as keeping up a perpetual fire in all their temples. Among the Moquis of New Mexico the sacred fire is constantly maintained by aged men. They believe that great misfortunes would afflict the whole tribe should the fire be extinguished.

The superstitious devotion to fire was general among the Mexicans at the period of the conquest. The Potawatomies say that Chipiapoos, or the *Dead Man*, is the great manitou that presides in the country of souls, and there maintains the sacred fire for the happiness of all those of his race who arrive there. Fire is, in all the Indian tribes that I have known, an emblem of happiness or of good fortune. It is kindled before all their deliberations. "Having extinguished the enemy's fire" signifies with them to have gained the victory. They attribute to fire a sacred character, which is remarkable everywhere in their usages and customs, especially in their religious ceremonies. They generally maintain mysterious ideas concerning the substance and phenomena of fire, which they consider supernatural. To see a fire rising

* Clavigero.

† Moses kept the flocks of Jethro. He led the flock to the back side of the desert and came to the mountain of Horeb, the mountain of God. And the *angel* of the Lord appeared unto him in a *flame of fire*. This probably is the earliest mention of fire in connection with religion, and this fire was on the mountain of God.

mysteriously in their dreams or otherwise is the symbol of the passage of the soul into the other world. Before consulting the manitous, or tutelary spirits, or before addressing the dead, they begin by kindling the sacred fire. This fire must be struck from a flint, or reach them mysteriously by lightning, or in some other way. To light the sacred fire with common fire would be considered among them as a grave and dangerous transaction.

The Chippewas of the north kindle a fire on every new tomb, during four successive nights. They say that this symbolical and sacred light illuminated their solitary and obscure passage to the country of souls.*

A portion of the population of New Mexico consists of Indians, called Pueblos, from the fact of their living in towns, who are in a semi-civilized state, and in whose conditions may be traced an analogy to the much exaggerated civilization of the ancient Mexicans. The Pueblo Indians construct and inhabit houses and villages of the same form and material as the "*casas grandes*" of the ancient Mexicans, retain many of their customs and domestic arts as they have been handed down to us, and numerous traces of a common origin.

Among many of the forms still retained by these people, perhaps the most interesting is the perpetuation of *the holy fire*, by the side of which the Aztecan kept a continual watch for the return to earth of Quetzalcoatl, the god of air, who, according to their tradition, visited the earth and instructed the inhabitants in agriculture and other useful arts. During his sojourn he caused the earth to yield tenfold productions. The lazy Mexicans naturally look back to this period as the "golden age;" and as this popular and beneficent deity on his departure from earth promised faithfully to return and visit the people he loved so well, this event is confidently expected to this day.† Quetzalcoatl embarked on the Gulf of Mexico, and as he was seen to steer to the eastward, his arrival is consequently looked for from that quarter.‡ When the

* "History of the Western Missions and Missionaries of the United States," by Rev. P. J. De Smet.

† George F. Buxton, Esq., member of the Royal Geographical Society, the Ethnological Society, etc., travelled from Mexico to Leavenworth in the period from July 2, 1846, to July, 1847.

‡ Clavigero merely says: "Some people said that he suddenly disappeared; others that he had died upon that coast"—the Gulf of Coatzacualco. Coatzacualco, a province extending along the coast of the Gulf of Mexico—the province of Vera Cruz—to the Isthmus of Tehuantepec. Considering the direction, might not Quetzalcoatl have been a missionary from the City of Uxmal, in Yucatan, whose ruins indicate the highest degree of civilization on the continent, and the centre of a powerful hierarchy.

Spaniards arrived from the east, they were at first generally supposed to be messengers from or descendants of the god of air.

This tradition is common to the nations even of the far-off north, and in New Mexico the belief is still clung to by the Pueblo Indians, who, in a solitary cave of the mountain, have for centuries continued their patient vigils by the *undying fire*.

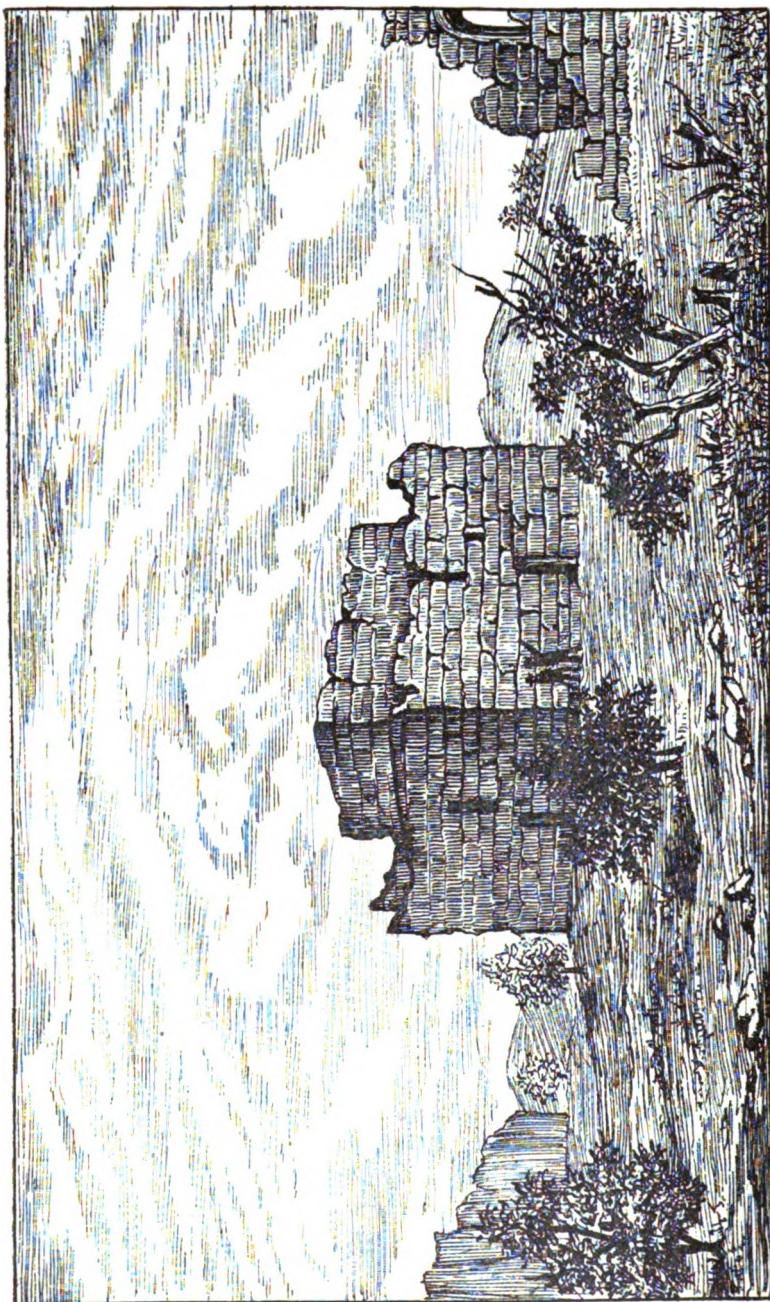
Far to the north, in the country of the Moquis, the hunters have passed, wonderingly, ruins of large cities and towns, inhabited by Indians, of the same construction as those of the Pueblos, and identical with the *casas grandes* on the Gila and elsewhere.

Although the Pueblos are nominally Christians and have embraced the outward forms of the holy Catholic faith, they yet, in fact, still cling to the belief of their fathers, and celebrate in secret the ancient rites of their religion. The aged and devout of both sexes may still be often seen on their flat housetops with their faces turned to the rising sun, and their gaze fixed in that direction from whence they expect, sooner or later, the god of air (Quetzalcoatl) will make his appearance.*

The most southern part of the intendancy of Sonora bears the name of Pimeria, on account of a numerous tribe of Pimas Indians who inhabited it. Farther north, on the right bank of the Rio de la Ascencion, live a very warlike race of Indians, the Seris, to whom several Mexican *savants* attribute an Asiatic origin, on account of the analogy between their name and that of the Seri placed by ancient geographers at the foot of the mountains of Ottocoras, to the east of *Scythia extra Imaum*. Two enterprising and courageous monks, Fathers Garces and Font, were able, however, to go by land through the countries inhabited by independent Indians from the missions of La Pimera Alta to Monterey, and even to the port of San Francisco. This bold enterprise has also furnished new information relative to the ruins of *La Casa Grande*, considered by the Mexican historians as the abode of the Aztecs on their arrival at the Rio Gila, towards the end of the twelfth century.

Father Francisco Garces, accompanied by Father Font, who was intrusted with the observation of latitude, set out from the Presidio d'Horcasitas on the 20th of April, 1773. After a journey of eleven days they arrived at a vast and beautiful plain, one league distant from the south bank of the Rio Gila. They there discovered the ruins of an ancient Aztec city, in the midst of which is the edifice called *La Casa Grande* [13]. These ruins occupy a space of ground of more than a square league. The

* Buxton.



THE CASA GRANDE OF THE GILA.



Casa Grande is exactly laid down according to the four cardinal points, having exactly from north to south one hundred and thirty-six metres (four hundred and forty-five feet) in length, and from east to west eighty-four metres (two hundred and seventy-six feet) in breadth. It is constructed of clay (*tapia*). The *pises* are of an equal size, but symmetrically placed;* the walls twelve decimetres (three feet eleven inches) in thickness. We perceive that this edifice had three stories and a terrace. The stair was on the outside, and probably of wood. The same kind of construction is still to be found in all the villages of the independent Indians of the Moqui west from New Mexico. We perceive in the Casa Grande five apartments, of which each is 8.3 metres in length, 3.3 metres in breadth, and 3.5 metres in height (27.18 feet, 10.82 feet, and 11.48 feet). A wall, interrupted by large towers, surrounds the principal edifice, and appears to have defended it. Father Garces discovered the vestiges of an ancient canal, which brought the water from the Rio Gila to the town. The whole surrounding plain is covered with broken earthen pitchers and pots, prettily painted in white, red and blue. We also find amidst these fragments of Mexican stone-ware, pieces of obsidian (*itzli*). We must not, however, confound the ruins of this city of the Gila, the centre of the ancient civilization of the Americans, with the *Casas Grandes* of New Biscay, situated between the presidio of Yanos and that of San Buenaventura. The latter are pointed out by the indigenous on the very vague supposition that the Aztec nation, in its migrations from Aztlan to Tula and the valley of Tenochtitlan made three stations, the first near the Lake Tiguyo, the second at the Rio Gila, and the third in the environs of Yanos.

The Indians who live in the plains adjoining the Casas Grandes of the Gila, and who have never had the smallest communication with the Indians of Sonora, deserve by no means the appellation of *Indos bravos*. Their social civilization forms a singular contrast with the state of the savages who wander along the banks of the Missouri and other parts of Canada. Fathers Garces and Font found the Indians to the south of the Gila clothed and assembled together to the number of two thousand or three thousand, in villages, where they peaceably cultivated the soil. They saw fields sown with maize, cotton and *gourds* (pumpkins, probably). The missionaries, in order to bring about the conversion of these In-

* It is built of layers of concrete, in sections. The sections were formed in a frame-work and made continuously, probably until the whole circuit of the building was surrounded.—EMORY.

dians, showed them a picture painted on a large piece of cotton cloth, in which a sinner was represented burning in the flames of hell. The picture terrified them, and they entreated Father Garcés not to unroll it any more, nor speak to them of what would happen after death. These Indians are of a gentle and sincere character. Father Font explained to them, by an interpreter, the security which prevailed in the Christian missions, where an Indian alcalde administered justice. The chief of Uturicut replied : "This order of things may be necessary for you. We do not steal, and we very seldom disagree. What use have we, then, for an alcalde among us?" The civilization to be found among the Indians, as we approach the northwest coast of America, from the 33d to the 34th degree of north latitude, is a very striking phenomenon, which cannot but throw some light on the history of the first migrations of the Mexican nations.

Father Garcés, in 1773, visited the country of the Moqui, watered by the Rio de Yaquesila. He was astonished to find there an Indian town with two great squares, houses of several stories, and streets well laid out, and parallel to one another. Every evening the people assembled together on the terraces of which the roofs of the houses are formed. The construction of the edifices of the Moqui is the same as that of the Casas Grandes, on the banks of the Gila. The Indians who inhabit the northern part of New Mexico give also a considerable elevation to their houses, for the sake of discovering the approach of their enemies. Everything in this country appears to announce traces of the cultivation of the ancient Mexicans. We are informed, even by Indian traditions, that twenty leagues north from the Moqui, near the mouth of the Rio Zaquanawas, the banks of the Nabajoa were the first abode of the Aztecs after their departure from Aztlan. On considering the civilization which exists on several points of the northwest coast of America, in the Moqui and on the banks of the Gila, we are tempted to believe (and I venture to repeat it here) that at the period of the migrations of the Toltecs, the Acolhuas and the Aztecs, several tribes separated from the great mass of the people to establish themselves in these northern regions. However, the language spoken by the Indians of the Moqui, the Yabipais, who wear long beards, and those who inhabit the plains in the vicinity of the Rio Colorado, is essentially different from the Mexican language.*

There is scarcely a valley in the Rio Grande basin in which the stone or adobe foundations of villages are not to be found. East of

* Humboldt's "New Spain."

the Rio Grande there are at least three ruined towns deserving of special notice. These are the ruins of Pecos, Quarra, Grand Quivera, and Abo. The early Spaniards tell us that Pecos was a fortified town of several stories. It was built upon the summit of a mesa which jutted out into the valley of the stream of the same name, and overlooked the lowlands for many miles in both directions. The pueblo was called by the early Spaniards "Tiguex." At Grand Quivera there are extensive ruins, undoubtedly of Indian origin, which fully carry out the statement of the historian Vonegas, and others, that this ancient pueblo was a large fortress consisting of six terraces rising in steps one from the other. The remains of large acequias are to be seen in the vicinity both of Grand Quivera and Quarra.

There are several ruined pueblos upon the two most southern tributaries of the San Juan river, viz.: the Rio de Chelly and the Canon de Chaco. The most remarkable are the Pintado, Una Vida Wegigi, Hungo Pavia, and Bonito, all on the latter stream. Besides these there are five others in a more ruined state. The pueblo Pintado has three stories, its whole elevation being about thirty feet. The walls are built of small flat slabs of a grey, fine-grained sandstone two and a-half inches thick, and are put together with much art and ingenuity, by means of a kind of mortar made without lime. The thickness of the outer wall of the first story is three feet at the base, diminishing at each successive story until the top wall scarcely exceeds one foot. There are, as usual, no external openings on the ground floor. The length of the edifice is three hundred and ninety feet. The ground floor contains fifty-three rooms, which open into each other by means of very small doors, in many instances only thirty-three inches square. The floors are made of rough beams, over which transverse cross-beams are laid, and above all is a coating of bark and brushwood covered over with mortar. The wood appears to have been cut with some blunt instrument.

The ruins of Wegigi are similar to those of Pintado, being six hundred and ninety feet in length, having ninety-nine rooms on the ground floor. The Pueblo Una Vida is no less than nine hundred and eighty-four feet long, and the Pueblo Bonito is still more extensive. The estufa of the latter is in a very fair state of preservation, one hundred and eighty feet in circumference, and the walls are regularly formed of alternate layers of small and large stones held together with mortar.

Another pueblo, Chelto Kette, measured thirteen hundred feet in circumference, and was originally four stories high. It has the

remains of one hundred and twenty-four rooms on the first story. The most perfect of the ten ruined pueblos discovered in the Canon de Chaco is that of Hungo Pavie [14]. Its circumference, including the enclosed court, is eight hundred and seventy-two feet. It faces, as usual, the cardinal points, and contains one estufa, placed in the centre of the northern wing of the building.

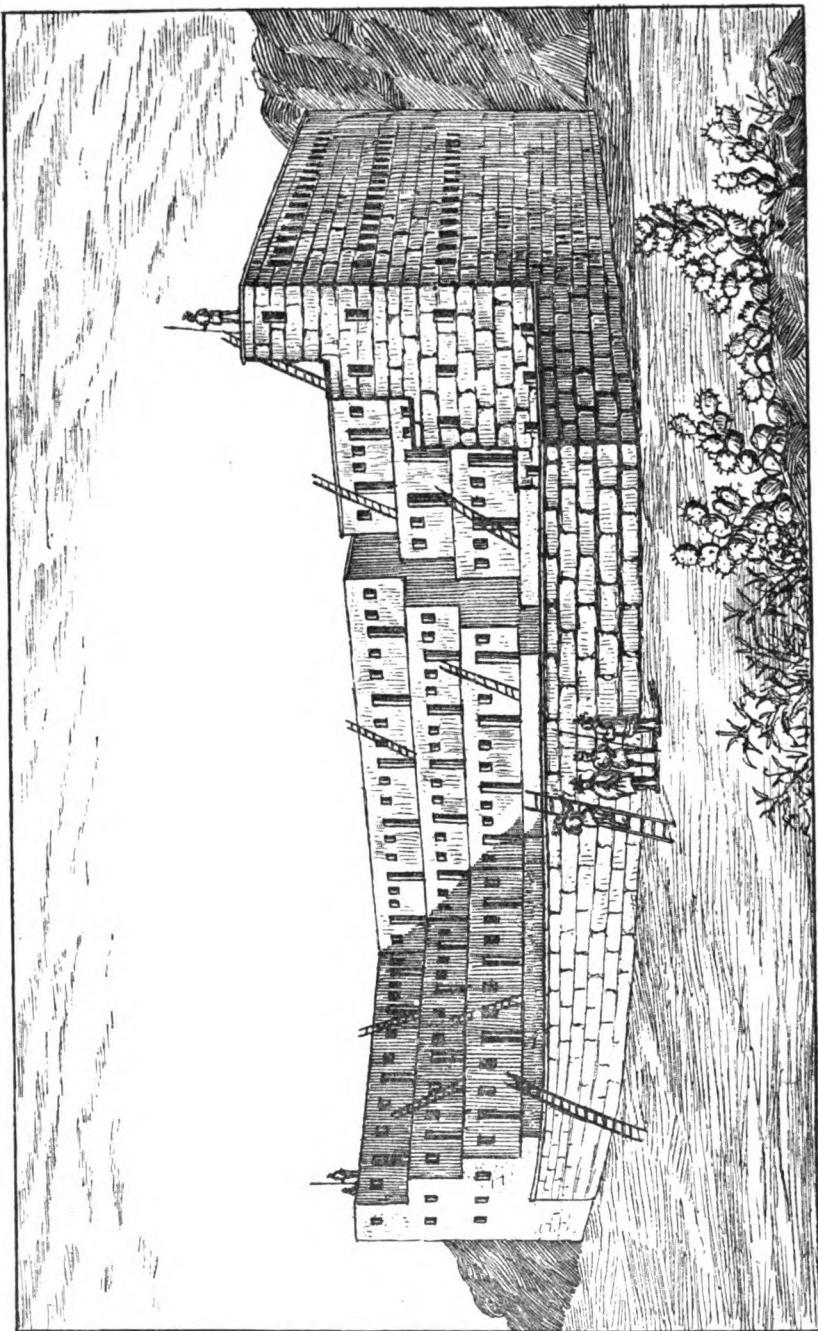
At Zuni the terraces face outwards and rise in steps towards the centre, and while the ruins in the Canon de Chaco seem to show that there the outermost wall was the highest, many ruins elsewhere prove that the opposite was often the case. Thus two forms were probably in use; the one rose from without in steps towards the centre of the building, the other faced the court-yard and was encircled by its highest walls.

One or more estufas have been discovered in each pueblo; some are rectangular, others circular. There are similar ruins in the Valley of de Chelly.

The country occupying the fork between the Great Colorado and the Colorado Chiquito forms a part of that vast table-land, the Colorado Plateau, through which both these streams flow in deep canons. The seven Moqui villages crest the edges of some of the mesas which form the south-eastern escarpment of the plateau. Further to the north-west, and nearer the Colorado, there is another group of pueblos in ruins, larger than those of the Moqui Indians, but situated, like them, on the flat summits of mesas, containing estufas, reservoirs, terraces, aqueducts, and walls of at least four stories high. No traces have as yet been found of their former inhabitants.

Next we came to the ruins on the Colorado Chiquito and its southern tributaries. There are ruins upon El Moro, ruins north of Zuni, Old Zuni, and others along the Zuni River; ruins also on the Rio Puercos of the West, and there are most extensive ruins in the main valley, both above the falls and between the falls and the entrance of the canon of the Chiquito, scattered along a fertile basin of at least a hundred miles in length. At Pueblo Creek the remains of several fortified pueblos were found, crowning the heights which command the Aztec Pass; but west of this point (long. 113° west) no other ruins have as yet (1867) been found.

Leaving the basin of the Colorado Chiquito, we pass southward to that of the Rio Gila, where the most extensive ruins of all are to be found. Some fine streams enter this river on the north. The chief of these are the Rios Presto, Bonito, San Carlos, Salinas, and Rio Verde, which latter two unite before joining the Gila,



THE PUEBLO OF HUNGO PAVIE.

twelve miles from the Pima villages. The great New Mexican guide, Leroux, started northward from the Pima villages, in May, 1854, crossed over to the junction of the Salinas with the Rio Verde, ascended the latter stream, and crossing from it to the 35° parallel route along the Colorado Chiquito. He represents the Rio Verde as a fine, large stream, in some places rapid and deep, in others spreading out into wide lagoons. The ascent was by gradual steppes, stretching out on either side into plains which abound in timber. The river banks were covered with ruins of stone houses and regular fortifications, which were evidently the work of a very civilized people, but did not appear to have been inhabited for centuries. They are built on the most fertile tracts of the valley, where were signs of acequias and of cultivation. The walls were of solid masonry, of rectangular form, some twenty or thirty paces in length, and from ten to fifteen feet in height. They were usually of two stories, with small apertures or loopholes, and reminded him strongly of the Moqui pueblos. At one place he encountered a well-built fortified town, ten miles distant from the nearest water.

Other travellers and prospectors report many ruined pueblos about the Salinas, others on the San Carlos, and several very extensive ones in the fertile Tonto basin, which is drained by a tributary of the Salinas. A little west of the northern extremity of the Burro Mountains the Rio Gila leaves the Santa Rita and other ranges, and meanders for a distance of from seventy to one hundred miles through an open valley of considerable width. This long strip of fertile bottom-land is studded throughout with the foundations of pueblos. It is impossible to travel more than a mile or two without encountering them, and at least one hundred thousand people, says one of the guides who knew the ground well, must at one time have occupied this valley. The ruins follow the river quite to the mouth of the first canon by which the Gila cuts through the Pina-leno Mountains.

All along the San Pedro valley, for one hundred and sixty miles, ruined pueblos are frequently met with. Between Camp Grant and the Pima villages the mesas bordering on the Gila are pretty thickly studded with ruins, but further west than the confluence of the Rio Verde no such traces of pueblos are to be found.*

Two good-sized ruins are situated near the Pima villages. One

* An interesting description of the borders of the Gila will be found in "Notes of a Military Reconnoissance" from Fort Leavenworth to San Diego, made in 1846-1847 by W. H. Emory, then Major and afterwards General U. S. A.

is known as Casa Montezuma, or Casa Blanca; the other as Casa Grande. The former consists of the remains of five large houses, one of which is tolerably perfect as a ruin. Around it are piles of earth, showing where others had been, and although ten miles distant from the river, all the intervening space is intersected by acequias, and was, no doubt, under cultivation. The chief ruin is four stories high and forty by fifty feet wide.* The walls face the cardinal points, and there are four estufas four feet by two in size. The rafters inside were almost entirely destroyed by fire. The walls consisted of brick, mortar and pebbles, smoothed without and plastered within.

Casa Grande is situated a little below the junction of the Rio Verde and the Salinas. It is a rectangular ruin, two hundred and twenty feet by sixty-eight feet, whose sides face the cardinal points. The highest walls are, as usual, found in the centre of the pile, and they appear to have been three or four stories high. Besides abundance of broken pottery are found sea-shells, often pierced, and otherwise converted into ornaments, about the ruins which skirt the Gila and neighboring streams, showing that these people must have had some intercourse with tribes living along the coast.

One more cluster of ruins, which, although they lie south of the boundary, belong to the same class as those which have been mentioned, are the Casas Grandes and Casa de Janos, situated on the Rio Casas Grandes, which flows northward into the Laguna de Guzman in north-western Chihuahua. The former, according to Clavigero, is similar in every respect to the ruined fortresses of New Mexico, consisting of three floors with a terrace above them, and without an entrance to the ground floor. The doors led into the buildings on the second floor, so that ladders were necessary. The following particulars are from Bartlett's personal narrative:

"The ruins of Casas Grandes consist of fallen and erect walls, the latter varying in height from five to thirty feet, projecting above the heaps of ruins which have crumbled to decay. Were the height estimated from the foundations it would be much greater, particularly of those of the centre part of the building, where the fallen walls and rubbish form a mound twenty feet above the ground. If, therefore, the highest walls were standing, from their foundation on the lowest level, their probable height was from forty to fifty feet. I conclude that the outer portions of the building were the lowest—about one story high; while the central

* J. Ross Brown, in his "Tour Through Sonora and Arizona," gives 40 feet by 50 as the dimensions of the Casa Grande. General Emory, U.S.A., describes the Casa Grande of the Gila.

ones, judging from the height of the walls now standing and the accumulation of rubbish, were probably from three to six stories. Every portion of the building is made of adobe, which differs from that now made by the Mexicans in that the blocks are very much larger, being fourteen or sixteen inches long, twelve inches wide, and three or four thick; the others are usually twenty-two inches in thickness and three feet or more in length.* Gravel was mixed with these large adobes, which greatly increases their hardness, but no straw was used. The building consists of three masses, united by walls, of probably but one story, forming, perhaps, only court-yards; they are now weather-beaten down to long lines of mounds.

"The centre edifice extends from north to south eight hundred feet and from east to west two hundred and fifty feet. The general character is very similar to Casas Grandes, near the Pima villages and the ruins on the Salinas. Not a fragment of wood remains; many doorways are to be seen, but the long sills have gone, and the top has, in most cases, crumbled away and fallen in.

"Some of the apartments arranged along the main walls are twenty feet by ten, and connected by doorways with a small enclosure or pen in one corner, between three and four feet high. Besides these there are many other exceedingly narrow apartments, too contracted for dwelling-places or sleeping-rooms, and into which the light was admitted by circular apertures in the upper part of the wall. There are also large halls, and some enclosures within the walls are so extensive that they could never have been covered with a roof. The lesser ranges of buildings which surround the principal one may have been occupied by the people at large, whose property was deposited within the great building for safe keeping. Although there appears to be less order in the *tout ensemble* of this great collection of buildings than in those farther north, the number of small apartments, the several stages or stories, the inner courts, and some of the minor details, resemble in many respects the large edifices of the semi-civilized Indians of New Mexico.

"The builders showed much sagacity in their choice of so fine a region for agricultural purposes. There is none equal to it from the lowlands of Texas, near San Antonio, to the fertile valleys of California, near Los Angeles; and with the exception of the Rio Grande, there is not one valley equal in size to that of the Casas

* It is well to remark that the *size* and *consistency* of these blocks of *concrete* were the same as those of the Casa Grande of the Gila, which gives a probability that both these buildings were constructed by the same people.

Grandes, between those of eastern Texas and the Colorado of the West. The water of the Rio Casas Grandes, unlike that of the Rio Grande, Pecos, and Colorado, is clear, sweet, and sparkling."

When New Mexico was discovered, all the country extending from Culiacan to the desert of Cibola on one side, and to the Rio Colorado on the other, was but a succession of towns, villages and habitations joined together by cultivated fields, orchards, gardens and roads. But those great multitudes of human beings have almost disappeared since the conquests; the silence of the wilderness has succeeded the joyful songs of the extinct populations, and the aridity of the desert replaces the primitive fertility of the soil.*

On the 10th of November, 1582, Antonio de Espejo left the valley of San Bartolo (one hundred leagues from the city of Mexico) at the head of an expedition, to explore the Rio del Norte, and to discover the fate of two friars, Lopez and Ruiz, who were reported to have been murdered there.

Directing his course northward, he met with great numbers of Conchos (Papagos), who dwelt in hamlets covered with straw. These Indians went nearly naked, cultivated corn, pumpkins, and melons, and were armed with bows and arrows. They worshipped neither idols nor aught else. The caciques sent information of the expedition from one town to another, and the party was well-treated. They passed through Passagautes, the Zoboses, and the Jumanes, who were called by the Spaniards Patarabueges. Their villages are upon the Rio del Norte; their houses are flat-roofed, and built of mortar and stone. These people were well-clothed, and seemed to have some knowledge of the Catholic faith. Ascending the Rio del Norte, they discovered another province of Indians, who showed them many curious things made of feathers of divers colors, and many cotton mantles, striped blue and white, like those brought from China. These people showed by signs that five days' journey westward there were precious metals.

Journeying thence northward along the Rio del Norte, they were well-received amongst a numerous population. Here they were told by a Concho Indian who accompanied them, that fifteen

* "The Great Deserts of North America," by Abbe Domenech, Alvarez Nuñez. Cabeña de Vacca, who accompanied Narvaez on his expedition into Florida, in his wanderings from 1527 to 1536, passed through this region, and represents it as more civilized and more populous than others. Several places he passed through were very populous. He traveled on foot from the Rio Colorado of Texas to the Pacific Ocean, and then, apparently, through a desert to Culiacan and the City of Mexico.

days' journey towards the west could be found a broad lake and great towns with houses three and four stories high. They noted particularly the "specially" excellent temperature of the climate, good soil, and abundance of precious metals.

From this province they travelled fifteen days without meeting anyone, passing through woods of pine trees.

Having thus travelled eighty leagues, they arrived at villages where there was much excellent white salt. Ascending the valley of the Rio del Norte twelve leagues farther, they arrived at the country which they called New Mexico. Here, all along the banks of the river, grew mighty woods of poplar, in some places four leagues broad, and great store of walnut trees and vines. Having travelled two days through these woods, they arrived at ten towns situated upon both sides of the river, where were about ten thousand persons. Here were houses four stories in height, with "stoves for the winter season." They had "plenty of victuals and *hens of the country.*"* Their garments were of cotton and deerskins, and the attire of both men and women was after the manner of the Indians of Mexico. Both men and women wore boots and shoes with good soles of leather—a thing never seen in any other part of the Indies."†

"There are caciques who govern the people, like the caciques of Mexico, with sergeants to execute their orders. In all their arable grounds, whereof they have great plenty, they erect on one side a little cottage, or shed, standing upon four poles, under which the laborers eat and pass away the heat of the day; for they are a people much given to labor. This country is full of mountains and forests of pine trees. Their weapons are strong bows, and arrows pointed with flints. They also use targets or shields made of raw hide."

After remaining four days in this province, not far off they came to another, called the province of Tiguas (Tiguex), containing sixteen towns, in one of which the two friars, Lopez and Ruiz, had been slain. Hence the inhabitants fled. The Spaniards, entering the town, found plenty of food, hens, and rich metals. Here they heard of many rich towns far towards the east. Two days' journey from the province of Tiguex they found another province, containing eleven towns and about forty thousand inhabitants. The country was fertile and bordered on Civola, where was abundance

* Might not this mean grouse, prairie hens?

† The most civilized Indians that De Soto met with in Florida were those of Cofacique, on the Savannah river; they were well-shod. "Deer skins" in connection with dress means "buckskin," dressed like chamois skins.

of kine.* Here were signs of "very rich mines." Having returned to Tiguex, they ascended the Rio del Norte six leagues, to another province, called Los Quires. Here they found five towns, and fourteen thousand persons who worshipped idols. Among the curious things seen at this place, were a pig in a cage and "canopies like those brought from China," upon which were painted the sun, moon, and stars. The height of the polar star led them to believe themselves in north latitude $37^{\circ} 30'$.

Pursuing the same northerly course, fourteen leagues, they found another province, inhabited by Cumanes (or Pumanes), with five towns, of which Ciazia was the greatest, having twenty thousand persons, eight market-places, and houses plastered and painted in divers colors. The inhabitants presented them with mantles curiously wrought, and showed rich metals, and mountains near which were the mines. Having travelled six leagues northwest they came to Amceres, where were seven great towns and thirty thousand souls. One of the towns was said to be very great and fair, but as it stood behind a mountain they feared to approach it. Fifteen leagues west they found a great town, called Acerna, containing about six thousand persons, and situated upon a high rock, which was about fifty paces high, having no entrance except by stairs hewn into the rock. The water of this town was kept in cisterns. Their cornfields, two leagues distant, were watered from a small river, upon the banks of which were roses. Many mountains in this vicinity showed signs of metals, but they went not to see them.

Twenty-four leagues westward from Acerna they arrived at Zuni, by the Spaniards called Cibola, containing great numbers of Indians. Here were three Christian Indians, left by Coronado in 1540. They informed Espejo that "threescore days' journey from this place was a mighty lake, upon the banks whereof stood many great and good towns, and that the inhabitants of the same had plenty of gold, as shown by their wearing golden bracelets and earrings." They said that Coronado intended to have gone there, but, having travelled twelve days' journey, he began to want water and returned. Espejo, desirous of seeing this rich country, departed from Cibola, and having travelled twenty-eight leagues west found another great province† of about fifty thousand souls. As they approached a town called Zaquato, the multitude with their cacique met them with great joy, and poured corn upon the ground for their horses to walk upon, and they presented the captain with forty thousand mantles of cotton, white and colored, and many

* Probably buffaloes.

† "Mohotze (Moqui?)."

hard towels with tassels at the four corners, and rich metals which seemed to contain much silver. Thence travelling forty-five leagues due west, they found the mines of which they had been informed, and took out with their own hands rich metals containing silver. The mines, which were in a broad vein, were in a mountain* easily ascended by an open way to the same. In the vicinity of the mines there were numerous Indian pueblos. Hereabout they found two rivers† of a reasonable bigness, upon the banks whereof grew many vines bearing excellent grapes, and great groves of walnut trees, and much flax, like that of Castile.

Captain Espejo then returned to Zuni. Thence he determined to ascend still higher up the Rio del Norte. Having travelled sixty leagues toward the province of Quires, twelve leagues farther east they found a province of Indians, called Habates, containing twenty-five thousand people, well dressed in colored mantles of cotton and hides. They had many mountains full of pines and cedars, and the houses of these towns were four or five stories high. Here they had notice of another province, distant one day's journey thence, inhabited by Indians, called Tamos (Toas), and containing forty thousand souls. But this people having refused admittance to their towns the Spaniards returned, and following one hundred and twenty leagues down a river called Rio de las Vacas (Rio Pecos), united again with the Rio del Norte, and went homeward in July, 1583.

Espejo describes no less than sixteen provinces or kingdoms, and mentions others from hearsay ; and if his estimates of population at all approach the truth, there were far more people in that one valley in the sixteenth century than there are now in the whole of New Mexico and Arizona united, including both Mexicans and Americans.‡

CHAPTER XVII.

The Abbe Brasseur de Bourbourg's Observations on Central America, etc.

THE Abbe Brasseur de Bourbourg, in his "History of the Civilized Nations of Mexico and Central America," has the following: The

* "Probably San Francisco Mountain," Rio Verde.

† "Probably the Colorado Chequito (Rio del Lino) and Rio Verde."

‡ "A Journal of Travel and Adventure in the Survey for a Southern Railroad to the Pacific Ocean during 1867-8." By William A. Bell, M.A., M.B., etc. With contributions by General W. J. Palmer, Major A. R. Calhoun, C. C. Parry, M.D., and Captain W. F. Colton.

object which we propose to ourselves is to re-establish the facts altered by ignorance or concealed by Spanish jealousy; to make known the nations whom a cold indifference has disdained; to seek their origin, and replace them as near as possible in the rank to which they belong, according to the order of the general civilization of which we write the history. Mexico and Central America, from the time of their discovery, have attracted the attention of intelligent men. The ruins of ancient American cities discovered in forests, where they lay unknown for centuries, have increased in our day the desire to fathom the mysteries which still envelope their history. It is to respond to this desire that we ourselves have labored so actively for more than twenty years to unite in the same picture the scattered documents of which this history must be composed. It is to satisfy this *penchant* that we have travelled so long a time in these immense regions, and lived among the indigenous populations of Mexico and Central America, in the hope of informing ourselves more certainly, by their contact, of their traditions, their manners and their languages.

In the book which we write we do not adopt particularly any of the imaginary systems on the subject of their origin or of their civilization. We simply combine what we have collected from the original documents written by the Indians before and after the conquest, and we relate what we have heard from their mouth in order to enable the reader to judge personally of the cosmogonic notions, religious and historic, of American antiquity, and to leave to him all his liberty to form comparisons between the peoples of the ancient and the new world.

For half a century the passage of the Asiatics and Esquimaux by the Straits of Behring has been raised to the rank of a historical certainty by the researches of a great number of *savants*, but they have never maintained that *all* the Americans have descended from the colonies arrived from Asia. Acosta and Clavigero, however, in supporting the first of these opinions with their suffrage, are of a mixed opinion, which unites equally the claims of the European, the Asiatics, the Africans, and even of the peoples of the ocean. But they rely, especially in regard to the first, upon the physiological character, which in many respects the American race resembles that of the Mongolians who peopled the north and east of Asia, as also that of the Malays, or the men the least tawny, of Polynesia and the other archipelagoes of the ocean. This resemblance, which, however, extends only to the color and some traits of the countenance, does not embrace the more essential parts, such as the skull, the hair, and the facial angle. If in the

system of the unity of the human race we would consider the Americans as a branch of the Mongolian stock, we must suppose that during a long succession of ages it has been separated from the trunk and been subject to the slow action of a particular climate. It is the opinion of Clavigero and of the wise Abbe Hervas, who rightly insist upon the high antiquity of the American nations.

It is believed also that there are found proofs of Asiatic emigration in the languages of the New World. But as the wise and modest Gallatin remarks, physiology does not yet enable us to draw any positive conclusions on this subject, and it is not probable that the isolated comparison of vocabularies can give us much light. There are, perhaps, more than two hundred languages in America. Notwithstanding the resemblance of their construction and grammatical form, they have generally but few of them in their words. We can discover remarkable coincidences between these words and those of other languages, but these coincidences do not suffice yet to establish between the American idioms and those of other countries the proof, or even the indication, of a common origin. The knowledge of the languages of the north-east of Asia and of the interior of America is yet very limited. We must therefore await more complete investigations before we can pronounce wisely upon this matter.

In seeing this multitude and prodigious diversity of American languages, would not the first idea be to conclude that the New World must have been peopled not by a few distinct nations, but by a great number of families absolutely different one from the other? This hypothesis, so improbable in itself, is, besides, incompatible with the physical conformation, and the construction of the idioms of the greater part of the indigenous nations and tribes, among which they find so great a resemblance in modern times.

If, as is probable, this extraordinary subdivision has operated in America, we cannot do otherwise than admit the longest period possible, the slow operation of time being necessary to accomplish the changes of which the languages, not the writings, are susceptible to separate the masses into bodies of divers nations, and to put at a distance the nomadic population from those who constituted themselves into civil communities. We can therefore regard as certain that America has received its population at a date sufficiently remote for the providential laws relative to the multiplication of the human species and its dispersion over the extent of the hemisphere to have their full effect. The variety and pro-

digious number of American languages are, consequently, proofs, not only of the high antiquity of the Indians, but also of the certainty that the great mass of indigines actually existing is derived from these primitive migrations.*

After having established the antiquity of the original stock of the population of America, we can likewise affirm that the successive migrations which have since been able to establish themselves on the Western Continent have not been sufficiently numerous to efface or alter its distinctive character.† It is thus, for example, that the greater part of the languages spoken in the Guatamalian States and in the great State of Chiapas appear to have for their base the Maya idiom, still spread throughout Yucatan.

As to the passage of man from one hemisphere to the other, it presents much less difficulty than we can imagine. Without speaking of the Strait of Behring, we know that there would be nothing easier than for the inhabitants of Mantchouri or of Japan to transfer themselves, in a few days, to the coasts of America by following the almost continuous chain of the Kourilien Islands, which extend from Japan to Kamtschatka, and thence along the Aleutian to Alaska in the 55° of northern latitude. We know, besides, that the first modern discoveries were generally the result of coasting trade, undertaken from island to island or along the coasts. It was thus that the Malais peopled most of the inter-tropical islands of the Pacific Ocean, the peopling of which is, however, much less explicable than that of the New World. Navigators mention more than one example of a canoe or of a boat picked up in the vast ocean whose men wandered from their country, nourishing themselves with fish which they caught by chance, and drinking of rain-water. It has been scarcely eight

* Gallatin, "Notes on the Semi-civilized Nations of Mexico," etc.

† The population of the United States shows the small effect that immigration produces on the original stock, which was from Great Britain and Ireland. The original States being British colonies, the Hollanders, the French, the Swedes, and the Palatines, produced little or no effect on the nucleus of the nation; and so with subsequent immigrations, they have all been, or will be, absorbed in the original, all will be and continue an English-speaking nation. It has been more difficult to amalgamate the later immigrants; for they came in larger numbers, and some colonized themselves, stuck to their foreign habits, customs, and language, and did not enter into the spirit of the American people with the same quickness as the smaller bodies of earlier immigrants. They came as Italians, Germans, Swedes, Polanders, French, Spaniards, etc., but they do not remain such; and so it was probable with the immigration to America in remote antiquity.

years ago that a Japanese junk lost on its route was met by a ship of the United States at about a hundred miles from San Francisco, and conducted, with its crew, to that port. How many examples of a similar kind could not history reveal to us of men driven by accidents of the sea on the coasts of America, and who afterwards mingled their blood with that of the primitive races?

The same causes could have led to the same results in the east as in the west; and the evidence of antiquity fails not to explain the voyages of long course undertaken to unknown regions of the west by the people of the Mediterranean coast. The cod-fishery upon the coast of Newfoundland is more ancient than the epoch of Columbus, and we believe it would be rashness to assign that when it began. The numerous hordes that by turns inundated Europe and Asia, which peopled the lakes and islands of Scandinavia, whence afterwards issued the famous pirates who changed the destiny of France, have they not been able, in their adventurous excursions in the midst of the ice which environed Iceland, to arrive even at the new continent? The American traditions make allusions more than once, in a manner very plain, to the voyages of the Quichee tribes coming from the east, from a region cold and icy, through a hazy sea, to regions not less gloomy and cold, whence afterwards they directed their course to the south. These traditions certainly deserve great attention. The progress of these tribes was slow and painful, and the details are not wanting on this subject; they had to struggle more than once with the elements, with the rigors of a boreal climate and the troubles of snow, which often extinguished the fires near which they warmed themselves; they had to contend with the populations among whom they passed, in the midst of which they left more than one colony, before they arrived at the temperate regions, where their descendants are now found.

It is certain that most of the traditions which we have found in the Indian monuments, among the indigenes, announce a distant point of departure, and cause a supposition of a common origin with the race of men. What is not less remarkable is, that there are very few of these traditions which do not assign the east as the cradle of the human race. Doubtless there were tribes that came from the north-west, and there were some that came from the south, but if you interrogate their history, if you ask them how their first ancestors arrived in the north-west, they answer that they first departed from the place where the sun rises.* We

* The Peruvians and the Natchez Indian chiefs, at almost the opposite extremities of America, claimed the sun as their origin, and called themselves

do not, however, claim that some have not come from elsewhere; we simply establish the fact in support of which the greater part of the American natives who have preserved any memorial of their origin range themselves.

In the vast territories comprised within the basin of the Mississippi and its affluents there are seen in many places rude monuments, but imposing in their grandeur and extent, whose origin is lost in the night of ages. There are tumuli or tombs of a conical form, pyramids of cyclopean proportions, immense enclosures constructed of earth mingled with stone. If, after this, we think of the monuments which an unknown people have left in southern Siberia, compare the epochs of the primitive emigrations of the civilized populations of the Aztec plateau and that of the great revolutions of Asia at the time of the first movements of the Huns, we are tempted to believe that we see in the ancestors of the Mexicans the remains of a civilized nation which had fled from the borders of the Irtich or of the lake Baikal to escape from the yoke of the barbarous hordes of the great Asiatic plateau.

The great emigration of the American tribes of the north is equally established by divers traditions. All the nations of the south of the United States claim to have arrived from the west in crossing the Mississippi. According to the Muscogulges, the great people from whence they sprung still dwell in the west; their arrival does not appear to date but from the sixteenth century. The Chippewas are the only ones whose traditions indicate to a certain point their departure from Asia. They say they inhabited a country very remote to the west, from whence a wicked nation had driven them. They traversed a long lake filled with islands and heaps of ice; winter reigned everywhere on their passage. They landed near the Copper river. These circumstances cannot apply but to a people of Siberia, who would have passed the strait of Behring, or sailed along the Aleutian Islands. Nevertheless, the Chippewa language does not present a character more ancient than that of the other American idioms.

The traditions, the monuments, the usages, the astronomical and religious systems, as the comparison of many idioms, render more than probable the invasion of the Asiatic nations into the new continent. But all the circumstances concur in putting back

Suns. They looked to the east to hail the rising or coming of the sun. The sun was the source of everything,—their supreme god; and hence, probably, as the sun came from the east, as they imagined, they looked to the east as the source of their origin.

the epoch of the most of these emigrations in the darkness of ages anterior to history.*

After all that we have just expressed, we believe that it would be superfluous to analyze further the numerous opinions that have been hazarded upon the migrations of antiquity to the American continent. The common resource of the passage of the ten tribes of Israel led captive by Salmanazar has been employed by a great number of writers. The magnificent compilation of Lord Kingsborough will be, without doubt, the best and most durable of the monuments raised to this system. We would not, on that account, positively deny that there had been Israelites in America before the fifteenth century; we are clearly persuaded of the contrary. Only, we reject every system which has for its object to make of ancient American civilization the special appurtenance of any one nation whatever, African, European, or Asiatic. We have had too often, elsewhere, the opportunity to admire, among the Indian populations of Mexico, or of Central America, Jewish or Egyptian types; more than once, likewise, we have observed, in these countries profiles like to those of the King of Judea sculptured among the ruins of Karnac, and seen Indians in their haughty nudity resembling the beautiful Egyptian statues in the museum of the Louvre or of Turin. A crowd of foreigners, French, Belgian, German and English, have remarked with as much surprise as we, in certain Guatemalian villages, the Arab costume of the men, and the Jewish costume of the woman of Palin, and of the borders of the lake, Amatitlan, as perfect, and as beautiful, as in the pictures of Horace Vernet.†

* But little faith is to be placed in most Indian dates and traditions. A very old Creek chief told Bartram that his nation came to where they were settled (Georgia) when Charleston, South Carolina was settled. But the names of their towns proved that they were there in 1540.

† In a book entitled "Six Months in Mexico," I find the following: "Down by Cordoba I found a tribe of Indians who are not known to many Mexicans excepting those in their vicinity; they are called Amatecos, and their village, which lies three miles from Cordoba, is called Amatlan; their houses, although small, are finer and handsomer than any in the republic. Flowers, fruit and vegetables are cultivated by them, and all the pineapples, for which Cordoba is famous, come from their plantations. They weave their own clothing, and have their own priest, church, and school. Everything is a model of cleanliness, and throughout the entire village not one thing can be found out of place. The women are about the medium height, with slim but shapely bodies; their hands and feet are very small, and *their faces of a beautiful Grecian shape*; their eyes are magnificent, and *their hair long and silky.*"

The men are large and strongly built, not bad-featured. They wear many chains, ornaments, bracelets and earrings. They are always spotlessly clean.

We will not enter any further into the system of Ordonez* and of Juarros† who give alike the Egyptians and the Phoenicians for the ancestors of the Toltecas and the Mexicans, as also for the founders of Palenque. These systems anciently adopted by Siguenza, whose manuscripts we have seen at Mexico, and by other writers, do not rest upon very positive historical data. The passages of Diodorus Siculus and of Aristotle, which everybody knows, on the subject of the expeditions of the Carthaginians, although very curious, and giving an appearance of foundation to these systems, are not conclusive. We shall not then here reject the possibility of the voyages of the ancients to America. Humboldt reports on this subject an extremely curious passage of Plutarch ; it is a query, in terms perfectly clear and precise, of a great transatlantic continent, and of a mysterious stranger, arrived from this distant country, at Carthage, where he remained several years, about two or three years before the vulgar era.‡

If we study the condition of the aborigines of the New World at the end of the fifteenth century we recognize that all this vast extent from the extremity of one pole to the other was irregularly divided between two families entirely different ; one composed of a multitude of wandering tribes, living, in a savage state, on the spontaneous productions of the earth ; the other organized into natural communities, given to agriculture, having regular forms of government and religious systems based upon a powerful hierarchy—finally comparable by their civilization to the ancient empires of Asia. The civilized races of America could not have known but very imperfectly their mutual existence, and doubtless had but very indirect relations with the savage tribes that surrounded them. But all had among them particular traits of resemblance which perfectly distinguished them from the people of the Old World. It was a temperament and physical constitution common ; usages and institutions analogous ; constructions in their language and grammatical forms very nearly identical—very different from those of our continent.

They are industrious and rich. They never leave their homes but once a week, when they bring their marketing and sell it to the Indians of Cordoba. *Their language is different from all the others*, but they also speak the Spanish. The women are sweet and innocent, and undoubtedly the handsomest and cleanest people in the republic.

* "Ordonez and Aquiar. History of Heaven and Earth," etc. MS. of the Museum of Mexico.

† "Compendium of the History of Guatemala," etc., 1810, Guatemala.

‡ "Humboldt, Examen critique de la geographie du nouveau continent, tom 1, p. 191, Paris."

At the time of the discovery, the aborigines of America could have been divided into three classes: the agricultural natives, properly so-called; the savages, living only on the products of their hunting or their fishing; and finally the tribes which had some partial notions of agriculture.

All the nutritive plants cultivated in our hemisphere and designated under the common appellation of cereals, the millet, the rice, wheat, rye, barley, and oats, were absolutely unknown to the western continent before the arrival of the Europeans. Mais (corn) which was the principal and almost the only foundation of American agriculture, is absolutely of American origin.*

If we judge of it (agriculture) from the historical traditions of the Guatemalan population, the data which we possess relative to the Indians of the United States, from the known habitudes of some tribes of the northeast of Asia, and from the annals even of the people of the old continent, where we find slavery over the social body, we will be inclined to believe that violence alone has been capable of working such a change in the manners of the Indian hunter. Slavery, which, according to all probability, is the result of conquest, must have been of great efficacy in the transmutation of savages into agricultural nations. Inequality of condition was the necessary consequence of it. To this first element another was gradually united, which appears to have been the distinctive sign of the social state. The religious sentiment, the natural consequence of the belief in a Supreme Being, is a sentiment everywhere deeply graven in the human heart. Diviners are found among savages, as among civilized peoples, and consequently *ambitious men who know how to make use of superstition to govern the multitude*. It is estimated that at the time of the discovery of America the nations of Mexico and Peru were under the yoke of a military and religious despotism, perfectly regulated.

* The divers species of kidney beans, called by the Spaniards *frijoles*, and which are now one of the bases of the nourishment of the Indians of Mexico, of Central America, and of Peru, are indigenous to America, as well as a certain class of pumpkins (*courges*). The potato, called *papa*, and many other analogous species of roots, such as the *camote* and the *yucca*, all unknown to Europe excepting the first, belong exclusively to the new continent. I shall not speak of a great variety of other roots or indigenous vegetables, of which I have often had made excellent *juliennes* in my solitude at Vera Cruz, but I shall remark that Dr. Hernandez, in his "Natural History of Mexico," describes a species of wheat, which is found in Michoacan, of a prodigious fecundity. They give to it the name of *huauhli*, which the Spaniards of the continent translated by "*bledos*." This wheat was not to the taste of the Mexicans, who preferred to it *mais*, as they still prefer it to the wheat of Europe.

The transformation of a savage tribe into an agricultural people at once operated the transmutation of absolute individual independence into a despotism of that kind which cannot be of long duration ;* but the progress in the arts and in the acquisition of divers sciences being often arrested in their progress by the civil and religious institutions adopted anteriorly, could not, on the contrary, but be slow and gradual.

In recognizing the necessity of violence and conquest in order to make a horde of savages a civilized nation, we cannot conclude that such a change could be the work of a few isolated emigrants. We know, however, that the foreign emigrations to America were rarely composed of a great number of men. We must therefore admit, and it is the only hypothesis which agrees with the *ensemble* of American traditions, that this social revolution was in great part the effect of persuasion ; that the barbarians of the New World were indebted for it to a few extraordinary personages, priests or legislators arrived from distant countries to spread among them their dogmas and their laws.

The origin of the civilized nations of America, as that of the peoples of the ancient continent, is essentially united to the mythological traditions that envelop their infancy, but under these poetical veils are concealed the religious principles of the first ages, and the chaos of an existence anterior to historic times and the formation of societies. Notwithstanding the relative resemblance which exists between so many different traditions, each one nevertheless has its own character according to the diversity of the climates where it took its birth, or the genius of the men to whom it owed its existence.

The primitive civilization of North America appears to have extended its benefits, in the first times of its existence, to divers countries now known under the names of the States of Tabasco, Chiapas, Oaxaca, and Yucatan, as well as to the actual republics of Guatemala, San Salvador, and Honduras. The multitude and variety of the ruins which are met with in these diverse countries, joined to the study of the traditions which are attached to their past, have inspired the thought of seeking the first traces of these ancient nations, which rivalled, by their culture and their politeness, the kingdoms of ancient Asia.

According to the account of the ancient Tzendales traditions, the borders of the Tabasco and the Uzumacinta must have been

* “ *Which cannot be of long duration.*” All history refutes this. The Abbe appears to have felt more than he dared to express, and even to have been cautious of what he did express.

witnesses, many centuries before the Christian era, of the marvels worked by Votan, the most ancient of American legislators. The Usumacinta, as well as the Tabasco, is rapid until the moment of arriving in the plain ; it rolls its waves sometimes between two walls of volcanic rocks like to gigantic natural fortifications : sometimes in a narrow profound valley shaded by venerable forests, beneath which are concealed the debris of cities built by populations, now lost, of the western continent. Magnificent forests of a wonderful variety of trees, and foliage as vigorous as the day which saw the primitive civilizers land, have resumed the place which the latter had taken from them, and for ages bathed again their shadows in its rapid waves. A short distance behind these forests luxuriant savannas, displaying all the beauties of the tropical flora, lose themselves on one side in the State of Yucatan, and on the other in that of Chiapas.

The town of Chiapas, the first which it is said that has been built upon North American soil, rises upon the slope of a hill at the entrance to the steep mountains of Tumbala, which in grave and unforeseen circumstances could afford the safest retreat.

According to the traditions collected among the Tzendales, it is in these places that Votan will appear, accompanied by those whom Providence destined to be, under his lead, the founders of American civilization. Votan, it is said, was the first man that God sent to divide and share the lands of America. This sharing indicates either a conquest or a colonization ; but it is probable that under these two points of view it must be considered, the division of the soil being one of the first conditions of ownership, and, consequently, of civilization. Votan, therefore, did not come to people the American continent. We cannot say to what degree of barbarism this population had descended before the arrival of Votan. What appears certain is, that, in a considerable portion of the countries which extend between the Isthmus of Panama and the territories of California, men lived in a condition analogous to that of the savage tribes of the north.

It is doubtful, however, that all the American tribes had fallen into this state of degradation. Ruins of colossal proportions, analogous to the cyclopean edifices which are found in many parts of the Old World, are met with here and there in the Western Continent. They are masses of rough stones, of a prodigious size, irregularly placed, without cement, one upon the other, but joined in a manner to form together gigantic walls. No souvenir, no tradition, recalls now to what peoples these monuments owe their existence. We can but attribute them to some warlike race,

superior to the savage populations which they say had been attracted to civilization by Votan. Perhaps that race was cotemporaneous with this legislator by whom it had been conquered or driven back into the interior of the mountains, where we have contemplated these imposing remains of their power.*

The difficulties which envelop the history of Votan prevents making known in a satisfactory manner this mysterious personage. We cannot, however, refuse to admit the reality of his existence, but the double aspect under which tradition presents him causes a doubt sometimes if there were not several Votans, or if this celebrated name has not been attributed as a title of glory to other men arrived after him, and equally worthy of public gratitude. The analogy which is found in the Tzendales traditions, Quiches and Mexicans, between the personages under the divers names of Votan, Gucumatz, Cukulcan, and Quetzalcohuatl† causes us to believe that at the origin of history a single individual must have united this diversity of appellations. The comparison of all the traditions decides us, however, to admit two of them, Votan and Quetzalcohuatl, the names of Gucumatz Cukulcan being identically the same signification as the latter. However it may be, it is certain that it was from them, heroes, priests, legislators, or warriors, that Central America received the elements of that civilization which their successors carried afterwards to so high a degree.

CHAPTER XVIII.

The North American Indian, by Ulloa, Croghan, Carver—The Opinions of Father Gregorio Garcia—Father Joseph de Acosta—John de Laet—Emanuel de Moraez—George de Huron and Pierre de Charlevoix—Method to Discover the Earliest and the Latest Emigrants.

A NATURAL curiosity leads us to know, above all things, the inhabitants of the different countries of the earth, their customs,

* "The cyclopean ruins which we have seen are about eight leagues to the north of Guatemala, upon the high mountains which command the approaches from Montagua, on the lands of the hacienda of Carrizal. These ruins occupy a considerable extent."

† *Guc* or *cuc*, in the Quechua language, is the same bird that the Mexicans call *Quetzal*. *Cumatz* signifies serpent, as does the Mexican word *cohuatl*. In the Maya language of Yucatan there is likewise discovered the same sense in the word *cukulcan*; all three signify a feathered serpent, or covered with feathers, or rather a serpent adorned with the feathers of guetzal. It is very remarkable how the serpent, the most loathed and dreaded of all reptiles, enters into almost all religions—even the Christian.

usages and inclinations. This desire doubtless comes from all men having the same origin. It appears to them very extraordinary that there is so great a difference of living, of thinking, of all these nations. In fact, we can hardly convince ourselves at first sight that they all have the same origin. When we reflect upon this difference, it is even so great in many nations that it seems to make of them a species of men that have never had anything in common origin. The complexion, the features of the countenance, the form of the body, and, above all, their manners, their kind of life, their habits, have shown everywhere astonishing varieties. We can, however, reduce these varieties to three principal ones in regard to complexion. There are white men, black men, and reddish men. But these colors are each subdivided into almost as many different shades as there are regions, states, and provinces on the globe. There is remarked between the white and black all the opposite shades which can be imagined from one extreme to the other, so that in taking these two extremes it might be said that the difference is as day to night. The *red tint* in the middle between these two colors differs as much from the one as from the other; *it is the color of the Indians*. Although these men attach not any advantage to it, they call themselves, towards the north, *red-men*, to distinguish themselves from the other two species. They have sought the cause of these colors, and have claimed to have ascertained it. But very far from having found it, they have produced nothing but what was illusory in this respect. The same arguments that are advanced to prove it refute themselves; but besides that, the cold and heat of climates are not sufficient reasons for it. They do not any more explain in a satisfactory manner the diversity of the construction and of the features, for there is noticed in this respect as many varieties as in the colors of the skin.

The Indians have naturally a color inclined to red, but being very often exposed to the sun and to the wind, this color becomes dark. Now, it is settled that neither cold nor heat produces, in this respect, any sensible variation; it is wherefore the Indians of the high parts of Peru are confounded with those of the lower parts. They are also mistaken in regard to the color of those who inhabit the countries called the *Vallies*, in confounding them with those of other countries warmer. And it is the same with regard to those who inhabit the southern part, from the fortieth degree, towards the south, and of those of the northern part from the fiftieth degree and beyond, towards the north; for they cannot, by the color, distinguish the latter from those Indians who are

towards the Equator. In general it is very difficult to decide from what part are any of these Indians when they are found together. Their natural color receives from the rays of the sun, from the cold, and the air, a tint which renders it of a dim red.

There are less differences observed among the Indian races than among the others ; as, for example, among the Negroes some have the nose flat, the tuncle of the eye thick, the lips prominent and large, and wool for hair. There are others of them, also black, but their face is modelled as that of the whites, especially in regard to the mouth, the nose, the eyes ; they have straight hair, although very thick. There are also some of them of a reddish, and of another red shade much brighter, inclined to the color of the Mulattoes.

As to the Indians, their color scarcely varies at all, notwithstanding the difference observed in the form and the features of their faces ; a difference very perceptible, and which seems to distinguish their race, is a very small forehead, small eyes, nose pointed, thin, curved over to the upper lip, the face broad, the ears large, the hair black, straight, thick ;* very muscular and robust ; the face without beard, unless they are old, then they have a little of it, but never on the cheeks. Although this general form varies, the individuals preserve, however, a bearing of the race, which hinders confounding them with Mulattoes, who are like them to a certain degree by their color.

When one has seen an Indian, of whatever country he may be, he can say that he has seen them all, as to color and external structure. But it is not the same as regards stature ; they vary according to the countries. Those of the high countries of Peru are of medium height ; they are found a little larger in the low country, although but a trifle. But those who inhabit the southern parts, from the thirty-sixth degree to the south, the Keys of Florida, the northern part, from the thirtieth degree to the north ; finally, those that are known along the Mississippi, in Canada, and towards the part of New Spain, are tall and well formed. Now we can attribute this difference neither to the cold nor to the heat, since they experience in Peru the two extremes of these temperatures in the same degree as in climates farthest from or nearest to the Equator.

The resemblances are still more perceptible as to usages, customs, character, genius, dispositions, and other peculiarities ; for there is noticed in all as great a resemblance as if the countries the most distant formed but one.†

* This word *thick* should probably be *coarse*.

† "Mémoires Philosophiques," etc. Par Don Ulloa, de la Société Royale de Londres, etc., etc.

Humboldt, from his extensive travels in America, his intercourse with the natives, was well qualified to form a correct opinion of the Indian race. He says: "Notwithstanding the close ties which seem to unite all the people of America as belonging to one and the same race, many tribes among them differ not less in the height of their stature, by their tint—more or less tawny—by a look which expresses among some peace and gentleness, among others a sinister mixture of sadness and ferocity."

Colonel Croghan was for a long time employed by the English Government in what was then called the Indian Department. Few men have better known the native nations, and have been better loved and esteemed by them; few persons have made more efforts to engage them to cultivate the earth, and to show them the dangers of drunkenness.

"What a vast field does not the old and new inhabitants of America present for meditation!" remarks Colonel Croghan. "Very different from European nations, where complexion, and often even features, change with the latitude. We observe an invariable uniformity among those whom we meet from the burning shores of the Mississippi, under the 30th degree of latitude, to the foggy regions of the Saguenay,* under the 50th degree; the Mastassing and the Missisage of the north resemble the Muscogulge (Creeks), the Choctaw of Florida, and the Arkansa of the south: all have black, coarse hair, all the same mould of physiognomy, the skin copper colored, and the white of the eyes mingled with yellow. Does not this analogy appear to indicate that these nations descended from the same stock and are not of a high antiquity, since the difference of climate has not produced any in the shades of their complexion? On the other hand, that which we remark between the languages which the nations of the south, of the west, and of the north, is so great that such an opinion seems inadmissible.†

Several confederations existed when the continent was discov-

* Saguenay: a considerable river of Lower Canada, whose confluence with the St. Lawrence, at 150 miles below Quebec, is known under the name of Tadoussac. This river issues from the little lake Mastassing.

† There are four rivers named Miami, viz.: the Miami of the Lakes (the Maume), the Big and Little Miami of Ohio, and the Miami of Florida, which discharges itself at the southern extremity of the Peninsula. The Tuscarawas, of North Carolina, appear to have been related to the Senecas, of New York. When the former were defeated by the whites they would not live in subjection to them, and removed to the "Five Nations," where the Senecas assigned them lands, and they became the "Sixth Nation."—See Williams's History of North Carolina.

ered ; the best known were those of the Creeks (Muscogulges) in the two Floridas and Georgia; of the Powhatans in Virginia ; of the Whelenys or Illinois in upper Louisiana ; of the Lenapys in lower Pennsylvania and Jersey ; of the Mohawks in the State of New York. The first is the only one which has maintained itself; of the Illinois, there remain but a few families, which dwell on the borders of the river of that name ; there is not found a single Powhatan in all Virginia, nor a single Lenapy in the country which this tribe inhabited. Of the last, there exist only the Oneida nations and some remains of the Cayugas, Senecas, and Tuscarawas, the Mohawks having been obliged to move into Canada, where their numbers have been considerably diminished within a few years.

The nations of the Great Lakes and of the Ohio, although a little more cultivated, and inhabiting one of the most fertile regions of this continent, become our tributaries by the need which they have of European merchandise ; exposed as the others to the ravages of the small-pox, and the abuse of spirituous liquors, march also with astonishing rapidity to annihilation ; it seems they are destined to disappear before the ascendancy of the whites. Yet a few lustres, and there will not remain any trace of their passage over the earth but the names formerly given by their ancestors to rivers, mountains and lakes of their country."

In this connection it may be proper to remark that *these* great confederacies do not appear to have existed in 1540, though at that time there existed the Alabamas, the Chickasaws, the Chocchumas, and several other nations mentioned by the historians of De Soto's expeditions into Florida. But the Natches claim that their kingdom at one time extended from the Bayou Manchac to the Ohio, and it is stated in some of the accounts of this nation that mounds of earth were raised over its princes the sizes of which were in proportion to the importance of the person over whose remains they were raised.

"Since the one hundred and sixty-six years that we have known them," continued Croghan, "have we ever seen among them a single individual who has shown any spark of the celestial fire whence spring useful ideas and grand conceptions? No; their commerce with us, in causing to cease their wars, their vengeance and their cannibalism, has not communicated to them new tastes; they feel not even now the necessity and the advantages which result from the exclusive possession and the cultivation of a field; they know not, as we, the pleasure of planting a tree, and that still more agreeable of seeing it loaded with fruits and flowers;

nor, finally, that attachment, instinctive among all men, for the place of their birth ; like to wild beasts, they quit it without regret to go elsewhere and erect their wigwams.

On the other hand, how can we call them barbarians, after having observed the invariable kindness of their domestic manners ; that tranquility of mind ; that disinterestedness ; that constant disposition to assist one another in their needs and in their distress (for among themselves they are really brothers) ; the tenderness with which they raise their children ; the regrets and the tears which they shed when they lose them ; their respect for old age as well as for the memory and ashes of their ancestors ; their attachment to their tribe and their nation ; the heroic courage with which they endure hunger, sickness, sufferance and death ? I know not a surer and more faithful friend. If sometimes we observe among them traits of bad faith, it is from us that they have learned lying and duplicity. Viewed in this respect, who does not regret to see their numbers daily diminish ?

But then how reconcile the ideas which spring from the consideration of manners so gentle, with those which produce their ferocity in war and towards their prisoners ? This astonishing contradiction is equally striking among all the nations that I know from the Mississippi to the north of Lake Ontario ; all have the same physiognomy, the same opinions, the same usages. There is also seen among these nations the same degree of indolence which prevents them from working, and inspires them with the most profound contempt for husbandry. The same impatience which causes them to disdain the repose of a sedentary and quiet life draws them to chases the most distant and fatiguing, as well as to war. All bear on their physiognomy the imprint of a mind void, or inclined to sadness, and yet they know not melancholy ; all have the same indifference and improvidence for the future, and in spite of the experience of annual indigence, to which their unlucky disposition exposes them, they become neither wiser nor more provident from it.

Their women, less robust and less cruel than the men, are all subject to a hard and often painful life. They plant the corn, the potatoes, the tobacco, smoke the meat, carry the burdens, and often accompany their husbands to the great winter hunts, as well as to war. They nevertheless have a great influence in nearly all the national deliberations (although they are not allowed to speak in them), and also in the adoption of prisoners.

The bodies of the Indians, almost continually exposed to the inclemency of the weather, are much less susceptible to the effects

of the variation of the atmosphere and the change of seasons than ours. One day, when it froze very hard, I said to a Pottawattamie, almost naked, ‘Art thou not cold?’ ‘Is thy face cold?’ he proudly replied to me. I said to him, ‘No; my face is accustomed to the wind and the cold.’ ‘Ah, well,’ he replied, ‘my body is all face!’ Healthy and vigorous, though less capable of supporting labors of cultivation than we, those who escape the dangers of the small-pox and the abuse of spirituous liquors arrive at an advanced age almost without any infirmities.”

Flint, in his “Recollections,” bears testimony to “the regrets and tears which they shed when they lose their children, and to their respect for the memory and ashes of their ancestors.” He says: “I once witnessed a spectacle which I am told the Indians are rather shy of exhibiting to strangers, not only among the whites, but even of their own race. This was a set mourning for a deceased relative. It took place in a Choctaw family, on the north side of Lake Pontchartrain. About two months before, they had appointed this day for doing up the mourning at once. The whole group consisted of nine persons, male and female. Only four men enacted the mourning. I was walking near the place with my family. Our attention was arrested by the peculiar position of the mourners, and by a monotonous and most melancholy lament, in a kind of tone not unlike the howling of a dog. We walked up to the mourning, but it went on as if the parties were unobservant of our presence. Four large men sat opposite, and their heads so inclined to each other as almost to touch. A blanket was thrown over their heads; each had a corner of it in his hand. In this position one, who appeared to lead in the business, would begin the dolorous note, which the rest immediately followed in a prolonged and dismal strain for more than half a minute. It then sank away. It was followed by a few convulsive sobs or snuffles, only giving way to the same dismal howls again. This was said to be a common ceremony in like cases, and this was a preconcerted duty which they had met at this time and place to discharge. The mourning lasted something more than an hour. The squaw and sisters of the deceased were walking about with unconcern, and as though nothing more than ordinary was transacting. To be able to judge of the sincerity with which these mourners enacted their business, and to satisfy myself whether they were in earnest or in jest, I sat down close by them, so that I could look under their blankets, and I saw the tears actually streaming down their cheeks in good earnest. When the mourning was over they arose, assumed their usual countenance, and went about their ordinary business.”

Such were, in general, the inhabitants of this hemisphere when first discovered by Europeans, but the Peruvians and the Mexicans were in the infancy of civilization, just emerging from the gross barbarism that characterized the others.

This ceremony of mourning was one of the religious rites of the Peruvians. At a certain festival of the year they visited the tombs of the dead to mourn over them.

Most of the historians or travellers that have treated on the American Aborigines disagree in their sentiments in regard to them.

Two Spaniards, the one Father Gregorio Garcia, the other Father Joseph de Acosta, have written on the origin of the American Indians. The former, who had been employed in the missions of Mexico and Peru, endeavored to prove from the traditions of the Mexicans, Peruvians and others, which he received on the spot, and from the variety of customs, languages, and religions observable in the different countries of the New World, that different nations had contributed to the peopling of it. The latter, Father De Acosta, in his examination of the means by which the first Indians of America might have found a passage to that continent, discredits the conclusions of those who believed it to be by sea, because no ancient author has made mention of the compass; and concludes that it must be either by the north of Asia and Europe, which adjoin to each other, or by those regions which lie to the southward of the Straits of Magellan. He also rejects the assertions of such as have advanced that it was peopled by the Hebrews.

John de Laet, a Flemish writer, has controverted the opinion of these Spanish fathers, and of many others who have written on the same subject. The hypothesis he endeavors to establish is, that America was certainly peopled by the Scythians or Tartars; and that the transmigration of these people happened soon after the dispersion of Noah's grandsons. He undertakes to show that the most northern Americans have a greater resemblance, not only in the features of their countenance, but also in their complexion and manner of living, to the Scythians, Tartars and Samoides, than any other nations.

In answer to Grotius, who had asserted that some of the Norwegians passed into America by the way of Greenland, and over a vast continent, he says that it is well known that Greenland was not discovered till the year 964, and both Gomera and Herrera inform us that the Chichimeques were settled on the Lake of Mexico in 721. He adds that these savages, according to the uniform tradition of the Mexicans who dispossessed them, came from the

country since called New Mexico, and from the neighborhood of California ; consequently North America must have been inhabited many ages before it could receive any inhabitants from Norway by way of Greenland, etc.

The Flemish author then returns to the Scythians, between whom and the Americans he draws a parallel. He observes that many nations of them to the north of the Caspian Sea led a wandering life ; which, as well as many other of their customs and ways of living, agrees, in many circumstances, with the Indians of America. And though the resemblances are not absolutely perfect, yet the emigrants, even before they left their own country, differed from each other, and went not by the same name. Their change of abode affected what remained. He further says that a similar likeness exists between several American nations and the Samoides, who are settled, according to the Russian account, on the great River Oby. And it is more rational, continues he, to suppose that colonies of their nation passed over to America by crossing the icy sea on their sledges than for the Norwegians to travel all the way Grotius has marked out for them.

Emanuel de Moraez, a Portuguese, in his history of Brazil, asserts that America has been wholly peopled by the Carthaginians and Israelites. He brings, as a proof of this assertion, the discoveries the former are known to have made at a great distance beyond the coast of Africa, the progress of which being put a stop to by the Senate of Carthage, those who happened to be then in the newly discovered countries, being cut off from all communication with their countrymen, and destitute of many necessaries of life, fell into a state of barbarism. As to the Israelites, this author thinks that nothing but circumcision is wanted in order to constitute a perfect resemblance between them and the Brazilians.*

George de Huron, a learned Dutchman, has likewise written on the subject. He believes that the first founders of the Indian colonies were Scythians ; that the Phœnicians and Carthaginians afterwards got footing in America across the Atlantic Ocean, and the Chinese by way of the Pacific, and that other nations might, from time to time, have landed there by one or other of these ways, or might possibly have been thrown on the coasts by tempests, since through the whole extent of that continent, both in its northern and southern parts, we meet with undoubted marks of a mixture of northern nations with those who have come from other places, etc.

Pierre de Charlevoix, a Frenchman, who in his journal of a voy-

* Indian circumcision is mentioned by an author.

age to North America, made so lately as the year 1720, has recapitulated the opinion of a variety of authors on this head, to which he has subjoined his own conjectures. He quotes both Solinus and Pliny to prove that the Scythian Anthropophagi once depopulated a great extent of country as far as the promontory of Tabin ; and also an author of a later date, Marko Polo, a Venetian, who, he says, tells us that to the northeast of China and Tartary there are vast uninhabited countries which might be sufficient to confirm any conjectures concerning the retreat of a great number of Scythians into America. To this he adds that we find in the ancients the names of some of these nations. Pliny speaks of the Tabians, Solinus mentions the Apulians, who had for neighbors the Massagetes, whom Pliny since assures us to have entirely disappeared. Ammianus Marcellinus expressly tells us that the fear of the Anthropophagi obliged several of the inhabitants of those countries to take refuge elsewhere. From all these authorities Charlevoix concludes that there is at least room to conjecture that more than one nation in America had the Scythian or Tartarian original.

I shall only add, to give my reader a more comprehensive view of Charlevoix's dissertation, the method he proposes to come at the truth of what we are in search of. The only means by which this can be done, he says, is by comparing the language of the Americans with the different nations from whence we might suppose they have peregrinated. If we compare the former with those words that are considered as primitives, it might possibly set us upon some happy discovery. And this way of ascending to the original of nations, which is by far the least equivocal, is not so difficult as might be imagined. We have had, and still have, travellers and missionaries who attained the languages that are spoken in all the provinces of the New World ; it would only be necessary to make a collection of their grammars and vocabularies, and to collate them with the dead and living languages of the Old World, that pass for originals, and the similarity might easily be traced. Even the different dialects, in spite of the alterations they have undergone, still retain enough of the mother tongue to furnish considerable light.*

Any inquiry into the manners, customs, religion or traditions of the Americans, in order to discover, by that means, their origin, he thinks would prove fallacious. Ancient traditions are effaced

* This suggestion, made 175 years ago by a very learned man, has not, I believe, ever been acted on, and yet colleges have multiplied, and so have their endowments, and so have millionaires and missionaries.

from the minds of such as either have not or for several ages have been without those helps that are necessary to preserve them. And in this situation is full one-half of the world. New events and new arrangements of things give rise to new traditions which efface the former and are themselves effaced in turn. After one or two centuries have passed there no longer remain any traces of the first traditions, and thus we are involved in a state of uncertainty. As we are destitute of historical monuments, there is nothing but a knowledge of the primitive languages that is capable of throwing any light upon these clouds of impenetrable darkness.

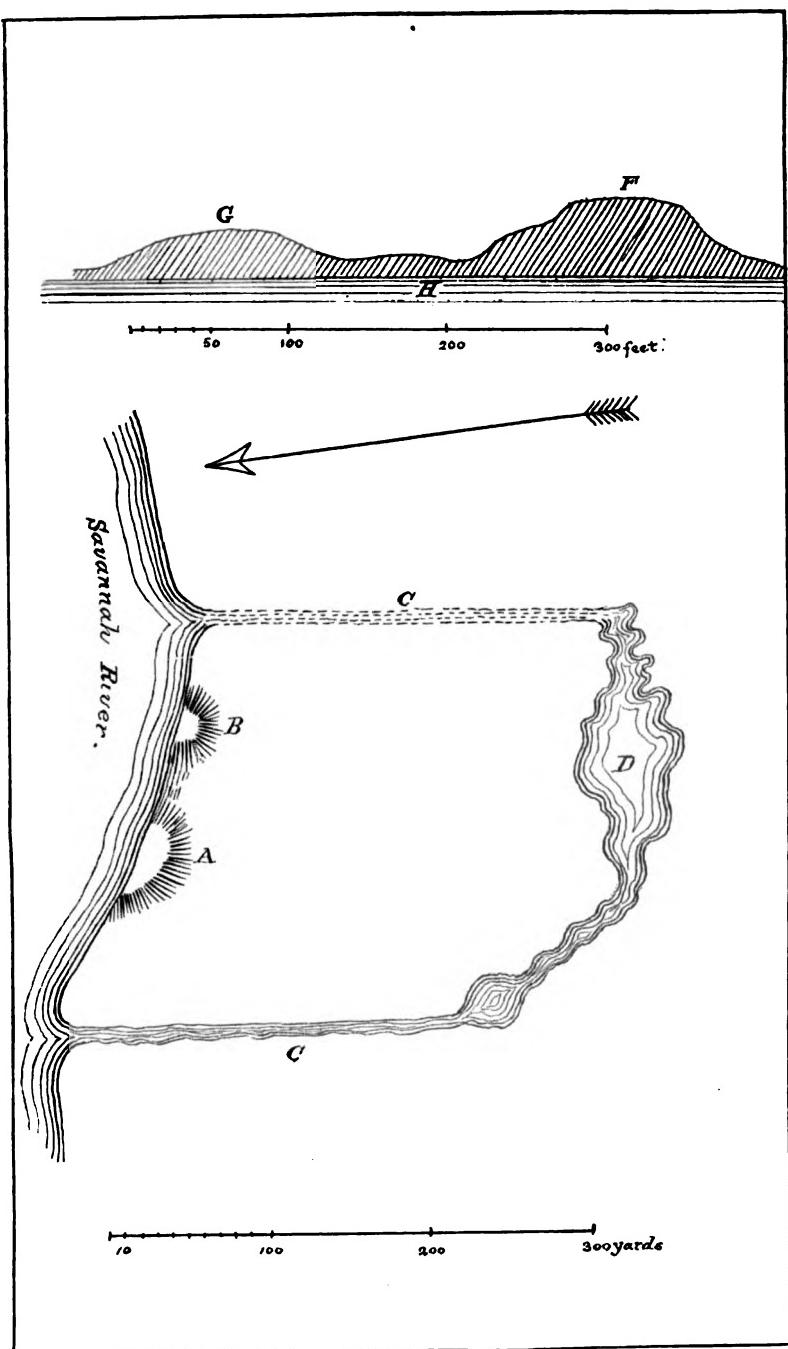
By this inquiry we should, at least, be satisfied, among that prodigious number of various nations inhabiting America and differing so much in languages from each other, which are those that make use of words totally and entirely different from those of the Old World, and who consequently must be reckoned to have passed over to America in the earliest ages, and which those that, from the analogy of their language with such as are at present used in the three other parts of the globe, leave room to judge that their migration has been more recent.*

CHAPTER XIX.

Tumuli—Ucita—Cutifachiqui — Cartersville Mounds—Idols—Casquin—Capaha — Breckenridge's Description of Capaha—The Tensas Mounds—Tonti and the Tensas Indians—The Destruction of their Temple.

ON Friday, the 30th of May, 1539, De Soto landed in Florida two leagues from a town of an Indian chief called Ucita. "The chief's house stood near the shore, upon a very high mount made by hand for strength. At another end of the town stood the church, and on the top of it stood a fowl made of wood, with gilded eyes. Here were found some pearls of small value, spoiled by the fire, which the Indians do pierce and string them like beads, and wear them about their necks and wrists, and they esteem them very much. The houses were made of timber and covered with palm leaves." The Elvas Narrative tells how Ortez, being sent in a vessel back to Cuba by Narvaez, was captured, and how Ucita gave him the charge of keeping the temple, "be-

* It will be seen, at the end of this book, that Jefferson and Volney were of the same opinion as Charlevoix.



THE TUMULI OF COFACIQUE.



cause that, by night, the wolves did carry away the corpses out of the same."

Cutifachiqui appears to have been a flourishing town on the left, or east, bank of the Savannah River. The river at the town was so wide, deep, and rapid that several horses were drowned when the Spaniards drove them into the river to swim across it. Charles C. Jones, author of the "Antiquities of the Southern Indians," says: "Tradition designates Silver Bluff as the site of the ancient village of Cutifachiqui—a marked group of ancient tumuli resting upon the left bank of the Savannah River, some twelve or fifteen miles below the city of Augusta. Thirty-five years ago the group numbered six mounds, but the restless river, encroaching steadily upon the Carolina shore, has already rolled its waters over two of them, while other two have so far yielded to the levelling influence of the plowshare as to be almost entirely obliterated. Consequently but two remain, and they only in major part, one-third of each having been washed away by the current; and the day is probably not far distant when tradition only will designate the spot once memorable in the annals of a former race as the site of monuments of unusual size and interest [15].

"The largest tumulus rises thirty-seven feet above the plain, and forty-seven above the water-line. Measured east and west, its *summit diameter* was fifty-eight feet, while in consequence of the encroachment of the river, when measured in a northerly and southerly direction, it fell a little short of thirty-eight feet. Its *base diameter* in an easterly and westerly direction was one hundred and eighty-five feet. This tumulus may be truthfully described as a truncated cone, its sides sloping gently and evenly, and its apex-surface level. If terraces ever existed, they are no longer apparent. The western flank of this mound was extended for a distance some twenty yards or more beyond the point where it otherwise would have terminated, respect being had to the configuration of the eastern and southern slopes. About two feet below the present surface of this extension is a continuous layer of charcoal, baked earth, ashes, broken pottery, shells, and bones. This layer is about twelve inches thick. So far as our examination extended—and it was but partial—the admixture of human bones was very slight, the bones, of which there were vast numbers, consisting of those of animals and birds native to this region. This stratum can be traced along the water-front of the mound, as though it existed prior to its construction. The superincumbent mass of earth seems to have been heaped above it. Where it penetrates the tumulus it is well-nigh coincident with a prolon-

gation of what was at that time the surface of the surrounding swamp.

"The mound itself is composed of the alluvium of the adjacent field, which is a micaceous clay, richly impregnated with vegetable mould. No traces of inhumation could be perceived, and the composition of the tumulus was homogenous as far as ascertained.

"One hundred and twenty-five feet due east of this large tumulus is the smaller mound. Its appearance, general outline, and composition are so nearly analogous to those of the larger mound that a specific description is scarcely necessary. It may be remarked, however, that, possessing a *base diameter* of one hundred and fourteen feet, it rises fifteen feet above the surface of the ground, and twenty-five feet above the level of the river.

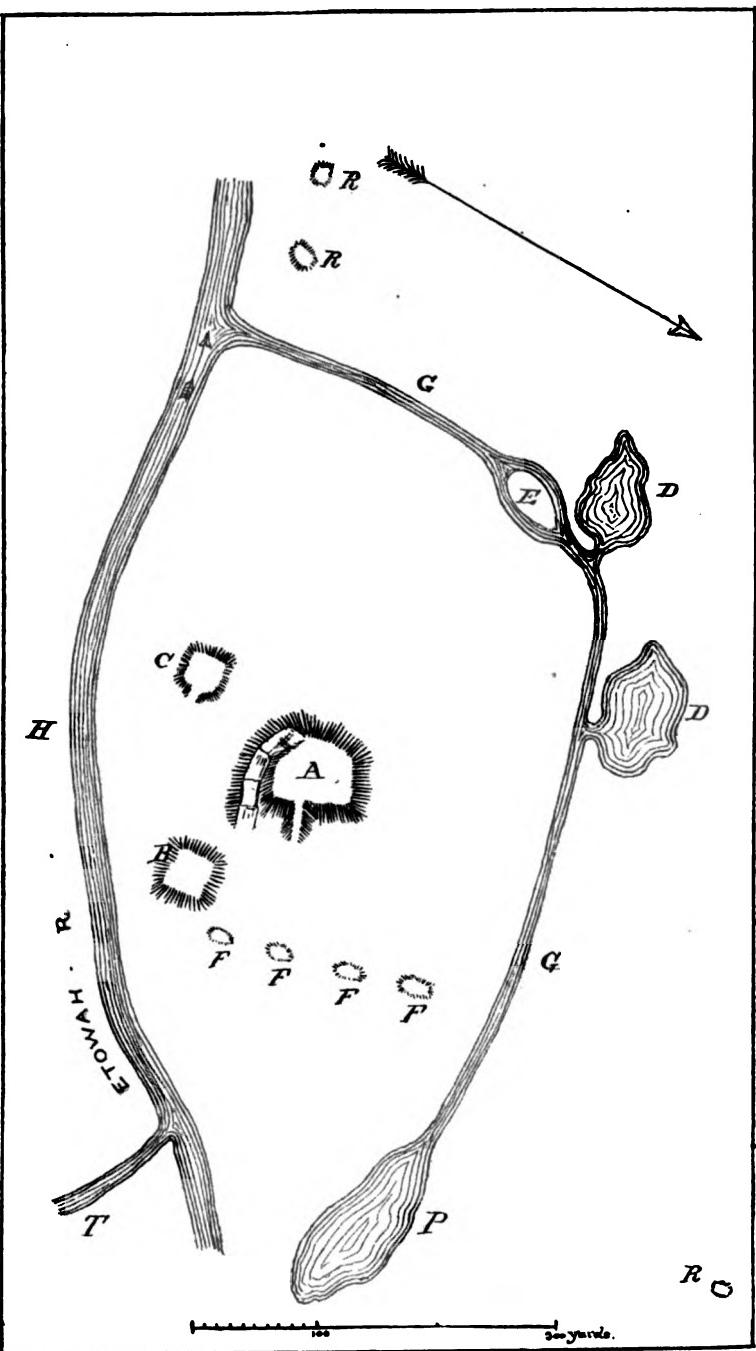
"These tumuli were, in days long since numbered with an unrecorded past, isolated by a moat whose traces are still quite observable. The enclosed space, the river forming the northern boundary, contains a conjectured area of about eight acres. Commencing at the river, eastwardly of the smaller mound, and distant from its flank some thirty yards, this ditch extends in a southerly direction until it merges into what now seems to be a natural lagoon. Following this in a westerly course, it finally leaves it, and thence runs almost due north to the river, into which it empties at about eighty yards distance from the western flank of the larger tumulus. Here the communication with the river is still perfect, but the upper mouth of this moat is now dry. It varies in width from twenty to forty feet, and is in some parts wider still."*

The following is from accounts of De Soto's expedition :

"Within a league and a half above this town were great towns depopulated and overgrown with grass, which showed that they had long been without inhabitants. The people of Cafaciui were brown, well made, and well proportioned, and more civil than any they had met in all the country of Florida, and all of them went shod and clothed.

The governor opened a large temple built in the woods in which were buried the chiefs of the country, and took from it a quantity of pearls, and little babies and birds made of them, which were spoiled by being buried in the ground. We dug up two Spanish axes, a chaplet of wild olive seed, and some small beads resem-

* From this description it appears that the inhabitants of this town took advantage of a lake extending parallel, or nearly so, to the river, to protect their town by cutting, from near each extremity of this lake, a ditch to the river, thus surrounding it with water. Abridged from the "Antiquities of the Southern Indians," by Charles C. Jones.



THE TUMULI NEAR CARTERSVILLE, GEORGIA.

bling those we had brought from Spain for the purpose of trading with the Indians. We conjectured they had obtained these things by trading with the companions of Vasquez de Ayllon, who went to this country in the year 1525. The Indians told us the sea was only about thirty leagues distant, and that the haven of St. Helena was two days' journey from this town.*

The next mound mentioned by the early authors of De Soto's expedition into Florida is the great mound two miles below Cartersville, in Bartow county, in the State of Georgia, and near the Etowah river. Garcillasso says:

"They (the Spaniards) entered into the capital of Guachoula, situated among many streams which pass on both sides of the town and come from the mountains which are round about. The chief received the general and lodged him in his house, which was upon a mound with a terrace around it, where six men could promenade abreast."

The following, I believe, sufficiently shows that this mound is the one mentioned near Cartersville: From there De Soto went to Iciaha. "To go there he descended along the many streams which pass by Guachoula, and which unite at some distance from there and make a river so powerful that in the province of Iciaha, *distant about thirty leagues from the other*, it is larger than the Guadalquivir, which passes by Seville. The capital of Iciaha is at the point of an island of more than five leagues. The town was on an island between two arms of a river, and was seated nigh one of them. The river divided itself into those two branches two cross-bow shots above the town, and meet again a league below the same. The plain between both the branches is sometimes one cross-bow shot, sometimes two cross-bow shots over. The troops marched along the island, and at five leagues from Iciaha where the river of this country unites with that of the country into which they were entering,† they came to the capital of Acosta; from there they entered into the province of Coça (Coosa).

I shall now give the description of this mound [16] and its locality, contained in the "Antiquities of the Southern Indians," by Charles C. Jones, of Georgia:

"Viewed as a whole, this group is the most remarkable within the confines of the State. These mounds are situated in the midst of a beautiful and fertile valley. They occupy a central position in an area of some fifty acres, bounded on the south and east by the Etowah river, and on the north and west by a large ditch or

* "Biedma's" and "Elva's Narrative."

† The junction of the Etowah and Oostenaula makes the Coosa.

artificial canal, which at its lower end communicates directly with the river. This moat at present varies in depth from five to twenty-five feet, and in width from twenty to seventy-five feet.* No parapets or earthworks appear upon the edges. Along its lines are two reservoirs of about an acre each, of an average depth of not less than twenty feet. Its upper end extends into an artificial pond elliptical in form and somewhat deeper than the two reservoirs.

Within the enclosure formed by this moat and the river are seven mounds. Three of them are pre-eminent in size, and one far surpassing the others both in its proportions and in the degree of interest which attaches to it. Composed of earth, simple but impressive in form, it seems calculated for an almost endless duration. The soil, gravel and smaller stones taken from the moat and the reservoirs were expended in the construction of these tumuli. The surface of the ground for a considerable distance around the northern bases was then removed and placed upon their summits. Viewed from the north the valley dips toward the mounds, so that they appear to lift themselves from out a basin.

The central tumulus rises about sixty-five feet above the level of the valley. It is entirely artificial, consisting wholly of the earth taken from the moat and the excavations in connection with the soil collected around its base. It has received no assistance whatever from any natural hill or elevation. In general outline it may be regarded as quadrangular, if we disregard a slight angle to the south. That taken into account its form is pentagonal, with summit admeasurements as follows: Length of northern side, one hundred and fifty feet; of eastern side, one hundred and sixty feet; of south-eastern side, one hundred feet; of southern side, ninety feet; and of western side, one hundred feet. Its longest apex diameter, from east to west, is two hundred and twenty-five feet, and from north to south about two hundred and twenty feet. On its summit this tumulus is nearly level. Shorn of the luxuriant vegetation and tall fruit trees, which at one time crowned it on every side, the outlines of this mound stand in bold relief. Its angles are still sharply defined.† The established approach to the top is from the east. Its ascent was accomplished through the intervention of terraces rising one above the other, inclined planes leading from the one to the other.‡ These terraces are sixty-five

* It is probable that some, if not most, of these large moats were originally sluices or bayous, or small branches of a river forming an island.

† "Antiquities of the Southern Indians" was published April, 1873.

‡ "These inclined planes have been considerably worn away by the elements, so that this main approach reminds the observer of a broad, winding ramp."

feet in width, and extend from the mound toward the southeast. Near the eastern angle a pathway leads to the top.

East of this large central mound, and so near that their flanks meet and mingle, stands a smaller mound, about thirty-five feet high, originally quadrangular, now nearly circular in form, and with a summit diameter of one hundred feet. From its western slope is an easy and immediate communication with the terraces of the central tumulus. ~~Two hundred and fifty feet in a westerly direction from this mound, and distant some sixty feet in a southerly direction from the central mound, is the third and last of this immediate group. Pentagonal in form, it has an altitude of twenty-three feet. It is uniformly level at the top, and its apex diameters, measured at right angles, were respectively ninety two and sixty-eight feet.~~

East of this group, and within the enclosure, is a chain of four sepulchral mounds, ovoidal in shape. ~~Nothing, aside from their location in the vicinity of these larger tumuli, and their being within the area formed by the canal and the river, distinguishes them from numerous earth-mounds scattered here and there throughout the length and breadth of the Etowah and Oostenaula Valleys.~~

The artificial elevation lying north-west of the central group is remarkable for its superficial area, and is completely surrounded by the moat, which at that point divides with a view to its enclosure. The slope of the sides of these tumuli is just such as would be assumed by a gradual accretion of earth successively deposited in small quantities from above."

We have the positive testimony of the Cherokees that they had not even a tradition of the race by whom these tumuli had been raised. During the period of our acquaintance with them idol-worship did not exist among the Cherokees, and yet within this enclosure three stone idols have been found, and numerous terra-cotta images, fashioned after the similitude of man, beast and bird. Of these idols, two, cut from a dark sandstone, were respectively twelve and fifteen inches high, and represented the male human figure in a sitting posture, the knees drawn up almost upon a level with the chin, the hands resting upon and clasping either knee. The third and most carefully sculptured Indian idol the writer has ever seen was a female figure made of dark talcose slate.

In 1859 the writer examined an idol which had been ploughed up near the large mound on the Etowah River. It was made of coarse, dark sandstone, and was twelve inches high. The chin and forehead were retreating. The hair was gathered into a knot

behind. The face was upturned, and the eyes were *angular*. Unfortunately this image was lost or destroyed amid the desolation consequent upon Sherman's march through Georgia, in 1864, but its place has been supplied by another recently found in the same neighborhood. It was ploughed up near the base of the large tumulus, and is certainly the most interesting idol thus far discovered in this State (Georgia). It is a female figure in a sitting posture. Its legs, however, are entirely rudimentary and unformed. Its height is fifteen inches and three-quarters, and its weight thirty-three and a half pounds. Cut out of a soft talcose rock, originally of a grayish hue, it has in time been so much discolored ~~that it now presents a ferruginous appearance.~~ Below the navel, and enveloping the buttocks and rudimentary thighs, is a hip dress, ornamented both on the left side and behind by ~~rectangular, circular and irregular lines.~~ The ears are pierced, and the head is entirely bald. In the centre of the top of the head is a drilled hole, half an inch in depth, and five-tenths of an inch in diameter. This probably formed the socket in which some head ornament was seated. Springing from the back of the head and attached at the other end to the back, midway between the shoulders, is a substantial handle. ~~The mammillary glands are sharply defined, and maidenly in their appearance.~~ The ears, hands ~~and~~ navel are rudely formed. The impression conveyed is that of a dead, young flat-head Indian woman. ~~The left arm has been broken off, but otherwise this idol is in a remarkable state of preservation.~~

As we look upon this rude monument we are not entirely sure that it is emblematic of a past idolatry. It may be the effort of some primitive sculptor to perpetuate in stone the form and features of some Indian maiden, famous in the esteem of her family and tribe. ~~It is seemingly older than the handiwork and superstition of any Indian tribe of which we have any knowledge as a resident upon the beautiful banks of the Etowah.~~

This rude stone image outliving the generation by which it was fashioned, and awakened from its long sleep of neglect and desuetude, conveys to us of the present day a true conception of the ignorance and superstition of that by-gone age, affords physical insight into the condition of the sculptor's art at that remote period, and confirms the past existence of peoples whose names and origin are the subjects only of speculation, whose history is perpetuated simply by a few archaic relics, which, having successfully wrestled with the disintegrating influences of time, remain uncrushed by the tread of another and a statelier civilization.

The great age of these structures is demonstrated by the character of the works themselves, which are not the hastily-erected monuments of migratory bands, but the ruins of temples, areas and burial-places carefully considered, of massive dimensions, and indicating the consecutive, combined and extensive labor of a considerable population permanently established.

The eastern angle of the central mound is very prominent, and the upper surface in that direction is more elevated. Just here have been found traces of hearths or altars, giving ample token of the continued presence of fire, and perhaps of sacrifice. The terraces lie towards the east, and there is that about this tumulus which induces the belief that it was erected for religious purposes, and that upon its eastern summit religious rites were performed and oblations offered to the great divinity, the sun. The broad terraces and adjacent dependent tumuli afforded space for the assembling of worshippers at the appointed hour, when, from the elevated eastern summit of the large tumulus, the eye of the officiating priest caught the earliest rays of the rising sun, as, lifting his face from out the shadows of the distant hills, he smiled upon this beautiful valley.*

There is a remarkable mound mentioned in the accounts of the De Soto expedition into Florida. When De Soto crossed the Mississippi river in the spring of 1541, he proceeded up that river to the St. Francis, which he crossed, and marched up along its left or east bank until he arrived at a place called Casqui, where, near the river, was a large artificial mound, on which he erected a cross. On this occasion mass was celebrated, and a procession formed. In speaking of the country along the St. Francis, it is said: "This country is higher, drier and more champaign than any part bordering near the river that until then they had seen. The woods were very thin. The governor travelled two days through the country of Casqui before he came to the town, and most of the way was always by champaign ground, which was full of great towns, so that from one town you might see two or three."

The procession on the consecration of the cross amounted to about one thousand persons. On the other side of the river there were about fifteen or twenty thousand persons of all ages and sexes.†

* "Antiquities of the Southern Indians."

† Crowley's ridge borders the St. Francis river on the west or right side, and it is probable that this ridge adjoined the river at Casqui, and that the Indians from its sides or from its summit looked down across the river upon the procession.

From Casquin, De Soto went to Capaha, situated on the Mississippi river. The chief of Casquin accompanied him with five thousand warriors, without counting three thousand Indians loaded with provisions and very well armed, and arrived, at the end of three days, upon an eminence from which they saw the capital of Capaha, very well fortified. Upon Wednesday, the 19th of June, 1541, the governor entered Pacaha (Capaha). He lodged in the town, which was very great, walled and beset with towers, and many loopholes were in the towers and walls. Within a league and a half were great towns, all walled. Where the governor was lodged was a great lake that came near unto the wall, and it entered into a ditch that went round about the town, wanting but little to environ it around. From the lake to the great river* was made a weir by which the fish came into it. With nets that were in the town they took as much as they would, and took they ever so much, there was no want perceived.

This town is upon a small eminence, and has some five hundred good houses, and a ditch of ten or twelve fathoms, fifty paces wide in most places and forty at others. Besides, it was filled with water by means of a canal which they had extended from the place to the Chucagua. This canal was three leagues long, at least as deep as a pikestaff, and so wide that two large boats abreast could very easily ascend and descend. The ditch, which is filled by the canal, surrounds the town, except at a place that is closed by a palisade of large posts fixed in the ground, fastened by other cross-pieces of wood and plastered with loam and straw.

The people of Casquin entered the temple where were the sepulchre of his (Capaha's) ancestors, and carried off all its riches. They broke the coffins, and scattered on all sides the bones of the dead. Then, through rage, they trampled them under their feet, took away the heads of their (Casquin's) people that were upon the ends of lances at the doors of the temple, and put in their places those which they had cut from the inhabitants of Capaha. Finally, they omitted nothing that could mortally offend their enemies. They even deliberated about burning the temple and the houses of the cacique, and were prevented only because they were afraid of offending De Soto, who arrived after this disorder.†

* "Great River." The Mississippi, also called Chucagua.

† Taken from the Elva Narrative, Biedma and Garcilasso. I have thus treated the reader to a particular description of an Indian fortified town, near the banks of the Mississippi, as it existed three hundred and fifty-four years ago, and from the numerous mounds still existing on the Yazoo and St. Francis bottoms, it is probable there were many of them there at that time. And this description of Capaha may in part be applied to Cofacique, showing that the canal which

The country over which De Soto travelled from the St. Francis to the Mississippi, in June, 1541, has undergone great changes since then, and though the dreadful earthquake of December, 1811, is recorded, yet in the two hundred and seventy years that preceded that event, changes as great may have happened. But whether the Indian fort above described is the one which Breckenridge saw in 1811, and describes in his "Views of Louisiana," or some other Indian town, yet it will do to confirm the description of Garcilasso, and to show that such towns actually existed. Besides what has already been mentioned of the remains of the great Indian town of Cofacique, on the east or left bank of the Savannah river, gives additional evidence of the existence of such towns three hundred and fifty-four years ago, when all the fertile places from Cofacique, on the Savannah, to Capaha, on the Mississippi, were densely populated with Indians of the present race, for the names there used show that the Apalache, Coosa, Alabama, Chickasaw, Chockchuma, Cappa and Kaskaskia tribes of Indians existed at that time.

The following is Breckenridge's account of an ancient town near New Madrid, on the Mississippi river. He says: "The river at the upper end of the town (New Madrid) is called the Bayou St. John, and affords an excellent harbor.* Below the town there is a beautiful lake, six or eight feet deep, with a clear, sandy bottom, and communicating with the St. Francis and the Mississippi in *high water*. On the bank of this lake, about four miles from New Madrid, there is one of the largest Indian mounds in the western country. As near as I can compute, it is twelve hundred feet in circumference and about forty in height, level on the top, and surrounded with a ditch five feet deep and ten wide. In this neighborhood there are traces of a great population."

Opposite Redney, a village on the east or left bank of the Mississippi, and about twenty-five miles above Natchez, there are two or three lakes, Bruin, St. John and St. Joseph. There was formerly a communication, between the Mississippi, at this point, and the Tensas, through a bayou and these lakes, on one of which is a very large mound. It was here that the Tensas Indians resided in 1682 and had a temple, probably on this mound. The follow-

partly surrounded that town was not only for defense, but to take fish and afford a harbor for their canoes and other boats.

* Steamboats were not then in existence; the "excellent harbor" was for keel-boats, barges, flat-boats and canoes. The first steamboat west of the Alleghany Mountains anchored at an island a few miles below New Madrid, the eve of the great earthquake of December, 1811.

ing is Tonti's account of his visit to this temple at that time : " When we arrived opposite the village of the Taencas, Mr. La Salle desired me to go to it and inform the chief of his arrival. I went with our guides and we had to carry a bark canoe for ten arpens, and to launch it on a small lake, on which their village was placed. I was surprised to find their cabins made of mud and covered with cane mats. The cabin of the chief was forty feet square, the wall ten feet high, a foot thick, and the roof, which was of a dome-shape, about fifteen feet high. I was not less surprised when on entering, I saw the chief seated on a camp bed, with three of his wives at his side, surrounded by more than sixty old men clothed in large white cloaks, which are made by the women out of the mulberry tree, and are tolerably well-worked. The women were clothed in the same manner, and every time the chief spoke to them, before answering him, they howled and cried out several times O-o-o! to show their respect to him, for their chiefs are held in as much respect as our kings. No one drinks out of the chief's cup, no one can eat out of his plate, and no one passes before him ; when he walks they clean the path before him. When he dies they sacrifice his youngest wife, his house-steward, and a hundred men to accompany him into the other world. They have a form of worship, and adore the Sun. There is a temple opposite the house of the chief, and similar to it, except that three eagles are placed on this temple, which look towards the rising sun. The temple is surrounded with strong mud walls, in which are fixed spikes, on which they place the heads of their enemies whom they sacrifice to the Sun. At the door of the temple is a block of wood, on which is a great shell (*vignot*) and plaited around with the hair of their enemies, in a plait as thick as an arm, and about twenty fathoms (*toises*) long. The inside of the temple is naked ; there is an altar in the middle, and at the foot of the altar three logs of wood are placed on end, and a fire is kept up day and night by two old priests who are the directors of their worship. These old men showed me a small cabinet, within the wall made of mats of cane. Desiring to see what was inside the old men prevented me, giving me to understand that their god was there. But I have since learned that it is the place where they keep their treasure, such as fine pearls, which they fish up in the neighborhood, and European merchandise. At the last quarter of the moon all the cabins make an offering of a dish of the best food they have, which is placed at the door of the temple. The old men take care to carry it away and make a good feast of it, with their families. Every spring they make a clearing, which

they name 'the field of the Spirit,' when all the men work to the sound of the drum. In the autumn the Indian corn is harvested with much ceremony, and stored in magazines until the month of June in the following year, when all the village assemble and invite their neighbors to eat it. They do not leave the ground until they have eaten it all, making great rejoicings the whole time. This is all I learned of this nation. The three villages below have the same custom."*

The Tensas were united to the Natchez nation and had the same religion. When Iberville ascended the Mississippi to the Tensas village, in 1700, this temple was destroyed and the following is the account of it by Penicaut, who was present on that occasion : "On the 12th of April (1700) we left the Natchez and coasted along to the right where the river is bordered with high gravelly banks for a distance of twelve leagues ; at the extremity of these bluffs is a place we called Petit Gulf, on account of a whirlpool formed by the river. Eight leagues higher up we came to Grand Gulf. A short distance above we landed on the left-hand side to visit a village situated four leagues in the interior. These Indians are called the Tensas. We were well received ; but I never saw a more sad, frightful and revolting spectacle than that which happened the second day (16th of April) after our arrival in this village. A sudden storm burst upon us. The lightning struck the temple, burned up the idols, and reduced the whole to ashes. Quickly the Indians assemble around, making horrible cries, tearing out their hair, elevating their hands to heaven, their tawny visages turned towards the burning temple, invoking, with the howlings of devils possessed, the Great Spirit to come down and extinguish the flames. They took up mud, with which they smeared their bodies and faces. The fathers and mothers then brought their children, and after having strangled them, threw them into the flames. Mr. Iberville was horrified at seeing such a cruel spectacle, and gave orders to stop it by forcibly taking from them the little innocents ; but with all our efforts, seventeen perished in this manner, and, had we not restrained them, the number would have been over two hundred."†

* "The three villages *below*" probably alludes to the Natchez villages.

† Father Le Petit, speaking of the Natchez, says : " If one has distinguished himself by some act of zeal he is then publicly praised. Such a case happened the year 1702. The temple having been struck by lightning and reduced to ashes, seven or eight women cast their infants into the midst of the flames to appease the wrath of heaven. The chief called these heroines and gave them great praises for the courage with which they sacrificed that which they held most dear."

The preceding is from a note to "Charlevoix Journal" in the His. Col. of

CHAPTER XX.

The Natchez—The Home of the Natchez—Tonti and LaSalle's Visit to the Tensas and Natchez in 1682—Iberville's Visit to the Natchez in 1700—Penicaut's Account of the Natchez—The Burial of the Great Female Sun—Dupratz's Account of the Natchez—The Burial of the Stung Serpent.

THERE is a strip of land along the east bank of the Mississippi river, extending from the Yazoo river to the Loftus Heights, a distance of about a hundred miles, which is seventeen miles wide at the present town of Natchez, but its width varies, being not less, but considerably more at some places. Through this land flows the Big Black river, the Bayou Pierre, Coles creek, the St. Catharine creek, Second creek, and the Homochilto, all emptying into the Mississippi, except Second creek, which flows into the Homochilto. The territory is all high land, excepting along the water-courses, and is about two hundred feet above the ordinary level of the Mississippi, where the river washes it, as it does at Vicksburg, Redney, Natchez, and Ellis Cliffs. In the intervening spaces along the river between these places there is but a narrow strip of alluvial land. Nearly the whole of this territory was originally covered with tall forest trees and dense canebrakes. The large game that ranged through these forests and brakes were buffalo, bear, deer, and panthers; there were also beavers. It was the hunter's paradise, the richest and most beautiful country on the borders of the Lower Mississippi. This was the home of the Natchez Indians, and a part of what was known as the Natchez District.

The chief village of the Natchez Indians was on St. Catharine's creek, and three miles east of the Mississippi, at the present town of Natchez, capital of Adams county, in the State of Mississippi. This creek, which has carried away a part of the bottom land and half of the principal mound of the village, after flowing about three miles, almost parallel to the course of the Mississippi, turns westwardly and nearly reaches the Mississippi at a point about three miles south of Natchez, and at the terminus of the bluff in the bottom-lands of the creek. At this point the stream turns southwestwardly, flowing with the general course of the Mississ-

Louisiana. There is no account of the Temple of the Natchez being struck by lightning and reduced to ashes. It was the Temple of the Tensas that was destroyed by lightning.

sippi, and empties into it at Ellis Cliffs. It is probable that the St. Catharine, at one time, flowed directly into the Mississippi at the bend where it turns southwestwardly, for near there is a quadrangular mound about forty feet broad, sixty feet long and eight feet high. What is singular is that this mound should be built on the alluvium land, subject to inundation, and within about a hundred yards of the high land. It is plain that it was never built as a refuge in floods, but probably some superstitious idea required it to be placed near the junction of water-courses, or the advantages of the protection against enemies that they afforded and the facilities for fishing. It is probable that this mound has been considerably higher, and that the deposits of mud made by the Mississippi reduced its elevation.*

The first notice of the Natchez Indians is given by Tonti, who with La Salle descended the Mississippi from the mouth of the Illinois and arrived at that of the Mississippi the 9th of April, 1682. Tonti says: "We left (Tensas) on the 22d (of March) and slept in an island ten leagues† away. The next day we saw a canoe, and Mr. La Salle ordered me to chase it, which I did, and when I was just on the point of taking it more than one hundred men appeared on the bank of the river to defend their people. Mr. La Salle shouted out to me to come back, which I did. We went on and encamped opposite them. Afterwards, Mr. La Salle expressing a wish to meet them peaceably, I offered to carry to them the calumet of peace, and, embarking, went to them. At first they joined their hands, as a sign that they wished to be friends. I, who had but one hand, told our men to do the same thing.

I made the chief men among them cross over to Mr. La Salle, who accompanied them to their village, three miles inland,‡ and passed the night there with some of his men. The next day he returned with the chief of the village where he had slept, who was a brother of the great chief of the Natchez. He conducted us to

* The great number of mounds on the alluvial lands of the Mississippi river have doubtless been affected in the same way. The bases of these mounds are probably several feet below the present surface, and generally the deeper the base below the present surface, the greater the age of the mound. Some important facts might be brought to light by a thorough examination of the bases of these mounds by persons properly qualified to make an investigation.

† French leagues. The island was, probably, Fairchild's Island.

‡ This village, probably, was either at the Spitzertown mound or at the large mound on the St. Catharine creek, and about eight or nine miles from the present town of Natchez, and about six miles above the Natchez village. It was known as the Koroa's village.

his brother's village, situated on the hillside, near the river, at six leagues distance. We were well received there. This nation counts more than three hundred warriors. Here the men cultivate the ground, hunt, and fish, as well as the Taencas, and their manners are the same."

In the account of the "Taking Possession of Louisiana," in the Historical Collection of Louisiana, is the following, showing how populous was the Natchez District: "On the 20th of March we arrived at the Taencas. Mr. Tonti passed the night at one of their villages where there were seven hundred men carrying arms assembled in the place. Here again a peace was concluded. A peace was also made with the Koroas, whose chief came there from the principal village of the Koroas, two leagues distant from the Natchez. The two chiefs accompanied La Salle to the banks of the river. Here the Koroa chief embarked with him, to conduct him to his village, where peace was again concluded with this nation, which, besides the five other villages of which it is composed, is allied to nearly forty others."

Iberville visited the Natchez Indians in April, 1700, of which Penicaut speaks thus: "Upon leaving the village of the Oumas we kept on our upward route fifteen leagues above. The river here is divided into three channels, forming two islands about half a league in length, and one league above there we coasted along on the right hand (east) side, where the banks are of a prodigious height (Ellis Cliffs). At the head of these bluffs is a small river (St. Catharine) that comes from a village four leagues distant and one league back from the river. We landed in order to visit the village, where we were perfectly well received. These Indians are called the Natchez, and are the most civilized of all the nations. They were very kind and obliging to Mr. Iberville and his officers, who had arrived there on the 5th of March, and concluded a treaty of peace. They chanted the calumet of peace during three days, at the end of which we departed, laden with game and poultry.

The Natchez inhabited one of the most beautiful countries in Louisiana. It lies about a league back from the Mississippi, and is embellished with magnificent and natural scenery, traversed with hills, covered with a splendid growth of odoriferous trees and plants, and watered with cool and limpid streams. After irrigating the plains they unite in two branches, which encircle the villages, and finally form a small river which flows over a gravelly bottom, and, after meandering two leagues through a beautifully undulating country, falls into the Mississippi.

All the pleasures of a refined society are observed by the great

nobles. They have none of the rude manners of the surrounding nations, and possess all the comforts of life. This nation is composed of thirty villages, but the one we visited was the largest, because it contained the dwelling of the great chief, whom they call the sun, which means noble. The men and women are well-made, and appropriately clothed. The women—among whom are many very beautiful—dress in white linen robes, which extend from their shoulders to their ankles, similar in make to the *Adrienne*, worn by French ladies. They manufacture it from a species of plant and the inner bark of the young mulberry.

The men clothe themselves in deerskins* (dressed), from which they make a kind of skirt, or jacket, descending to their knees; from thence to their ankles they wear leggings. Their language is soft and better modulated than their neighbors. The dress of the girls is different from that of the women, for they are only clad in a species of skirt, fastened around the waist, after the manner of our French women, who only wear petticoats. The skirts worn by the girls are sewn with fine white thread, and only cover their nakedness from their waist down to their knees. They are fastened with two strings, with tassels at the end of each. The front is ornamented with fringe. This garment is worn by the girls until the period of puberty, when they assume the woman's garment. They are very courteous and obliging, and fond of the French. It was really charming to us to behold them dancing at their feasts, arrayed in their beautiful and highly ornamented skirts, and the women in their neat white robes. Their heads are enveloped in long black hair, which falls gracefully to their waists, and in many instances down to their ankles.

Their dances are very graceful. The men dance with the women, and the boys with the girls. The quadrilles are always composed of twenty or thirty persons, with an equal number of boys and girls. It is not permitted to a married man to dance with a girl, nor a boy with a married woman. After having lighted two large torches, cut from some old pine tree, one is placed near the cabin of the chief and the other on the opposite side of the

* Deerskins, when dressed by the Indians, are exactly like the chamois skins sold by the druggists. It was the clothing of the pioneers. About the year 1831 I saw at the Indian Queen Hotel, at Philadelphia, the wife of a Cherokee chief, McIntosh (I believe). Her dress was of buckskin, neatly ornamented with beads. It fitted closely to her bust and showed its form distinctly, and from the waist fell loosely to just below the knees, where it terminated in an ornamented fringe. Her legs were enclosed in buckskin leggings, ornamented at the sides, outward. Her feet were shod with ornamented moccasins, extending above the ankles. She was medium size, beautiful in figure, face and form.

great square, when, towards sundown, the master of ceremonies enters, followed by thirty couples, in regular order, who commence the dance at the tap of the drum and the sound of the voices of the spectators. Each dances in turn until midnight, when the married men and women retire, and give place to the young people, who keep up the dance until morning. This dance has a considerable resemblance to our French cotillion, with this difference, that when a youth has danced with the girl at his side, he is permitted to conduct her without the village into one of the groves on the prairies, where he whispers sweet tales of love till each grow wearied. They then return to the village, and continue dancing until daylight.

When an agreement is entered into between two young people they go together into the woods, and while the young man is hunting, the young woman constructs a cabin from the boughs and limbs of trees and foliage, and kindles a fire close by. If the young man has killed in the chase a buffalo or deer, he brings one-quarter to the cabin, and afterward they live together for the remainder of life. They roast a piece, which they eat for supper, and upon the morrow carry the rest to the house of the girl's father and mother in the village, notifying them of their intention, and at the same time dividing with them their game. After they dine together the husband takes his wife to his own cabin, and from that time she is prohibited from mingling in the dance with the boys and girls, or having intercourse with any other than her husband. She is obliged to work within doors, and her husband may repudiate her if he thinks her unfaithful, unless she has presented him with a child.

The *Great Chief* orders the feasts, which usually continue eight or ten days. They generally take place when the chief is in want of any provisions or merchandise, such as flour, bacon, beans and other things, which are brought and placed at the door of his cabin, upon the last day of the feast. He has jurisdiction over all the villages, and sends his orders to them by two messengers, whom he calls *Ouchil-tichou*. The house of the *Great Chief* is of great extent, and can hold as many as four thousand persons,* over whom his power is as absolute as a king. The people are not allowed to approach him too closely, and must not address him nearer than four paces. His bed is on the right side of his cabin, composed of mats of very fine canes, across which is placed a bolster of feathers. The skins of deer are used for covering it

* This is probably a mistake.

in the summer, and those of bear and buffalo in winter. His wife is the only person who has the right to eat and sleep with him.

When he arises from his bed, his relatives approach, and with uplifted arms utter frightful cries, but he does not even deign to notice them. The Great Chief of a noble family can only marry with a woman of plebeian race, but the children born of this union, whether boys or girls, are noble.

It happened, during our visit, that the Great Female *Sun* died, and we were witnesses of her funeral obsequies, which were of the most tragical character that can be imagined. She was the Great Sun in her own right, and being dead, her husband, who was not of the noble family, was strangled by her eldest son, so that he might bear her company to the great village whither she had gone. On the outside of the cabin where she died they placed all her effects on a sort of bier or triumphal car, upon which was placed her body as well as that of her husband. Afterwards they brought and placed twelve small children upon it, whom they had strangled. These children were brought by their fathers and mothers, by the order of the eldest son of the *Great Female Sun*, who had the right, as her successor and as *Great Chief*, to put to death as many persons as he pleased to honor the funeral of his mother. Fourteen other scaffolds were afterward erected and decorated with branches of trees and paintings upon pieces of linen. On each scaffold they placed one of those they had strangled, to accompany the deceased to the other world, and these were surrounded by their relatives, dressed in fine white robes. They then formed a procession and marched to the great square in front of the *Great Temple* and commenced to dance. At the end of four days they began the ceremony of the march of death, the fathers and mothers of the strangled children holding them up in their arms. The eldest of these unfortunate children did not appear to be over three years of age. The fourteen other victims destined to be strangled were also marched in front of the *Great Temple*.

The chiefs and relatives of those who were destined to be strangled, with their hair cut off, began their howlings, while those who were destined to die kept on dancing and marching around the cabin of the deceased, two by two, until it was set on fire. The fathers, who carried their strangled children in their arms, marched four paces apart from each other, and at the distance of about ten paces threw them upon the ground before the *Great Temple*, and commenced dancing around them. When they deposited the body of the *Great Female Sun* in the temple, the fourteen victims, who stood before the door of the temple, were undressed, and,

while seated on the ground, a cord with a noose was passed around the neck of each and a deerskin thrown over their heads. The relatives of the deceased then stood to the right and left of each victim, taking hold of the end of the cord around their necks, and at a given signal they pulled until their victim was dead. The bones of the victims who had been strangled were afterwards deprived of the flesh, and, when dried, were put into baskets and placed in the temple,* considering it an honor and special privilege to have been sacrificed and placed there with the *Great Female Sun*. The barbarous custom of sacrificing their children to the *Suns* was kept up in spite of the efforts of the French missionaries to put a stop to it.

The female posterity of the *Suns* always enjoy the privilege of their rank. The male and female of the *Suns* never intermarry. Their nobility ceases at the seventh generation; they make it hereditary only in the female line. Their form of government is despotic. The whole nation is divided into nobles and common people called *stinkards* (*miche-miche-quipy*). They each have a language peculiar to themselves, that of the nobles being much purer and more copious. The *Great Sun* is the absolute master of the lives and property of the whole nation. The houses of the *Suns* are built upon mounds, and are distinguished from each other by their size. The mound upon which the *Greater Sun* is built is larger than the rest, and the sides of it are steeper.

The temple in the village of the *Great Sun* is about thirty feet high and forty-eight feet in circumference, with the walls eight feet thick, and covered with a matting of cane, in which they keep up a perpetual fire. The wood used is of oak or hickory, stripped of its bark, and eight feet long. Guards are appointed alternately to watch the temple and keep up the sacred fire; and if by accident the fire should go out, they break the heads of the guards with the wooden clubs they keep in the temple. At each new moon an offering of bread and flowers is made, which is for the use of those who guard it. Every morning and evening the *Great Sun* and his wife enter it to worship the idols of wood and stone.

Dupratz says: I shall be more full in speaking of the Natchez, a populous nation among whom I lived the space of eight years, and whose sovereign, the chief of war, and the chief of the keepers of the temple, were among my most intimate friends. Besides, their manners were more civilized, their manner of think-

* This confirms what Garcellasso says, in this respect, of the Temple of Talmecó at Cofaciquí.

ing more just and fuller of sentiment, their customs more reasonable, and their ceremonies more natural and serious, on all which accounts they were eminently distinguished above the other nations.

Their language is easy in pronunciation and expressive in terms. The natives, like the orientals, speak much in figurative style—the Natchez in particular, more than any other people of Louisiana.* They have two languages, that of the nobles and that of the people, and both are copious.†

From my conversation with the chief of the guardians of the temple, I discovered that they acknowledged a Supreme Being, whom they called *Coyocop-Chill—the spirit infinitely great*. The word *Chill* signifies the most superlative degree of perfection. God, according to the definition of the guardian of the temple, was so great and so powerful that in comparison to him all other kings were as nothing; he had made all that we see, all that we can see, and all that we cannot see; he was so good that he could not do ill to any one, even if he had a mind to it. They believed that God had made all things by his will, that nevertheless the little spirits, who are his servants, might, by his order, have made many excellent works in the universe, which we admire; but that God himself had formed man with his own hands.

The guardian added that these spirits were always present before God, ready to execute his pleasure with an extreme diligence; that the air was filled with other spirits, some good, some wicked; and that the latter had a chief who was more wicked than them all; that God had found him so wicked that he had bound him forever, so that the other spirits of the air no longer did so much harm, especially when they were by prayers entreated not to do it; for it is one of the religious customs of these people to invoke the spirits of the air for rain or fair weather, according as each is needed. I have seen the *Great Sun* fast for nine days together, eating nothing but corn—*maize*—without meat or fish, drinking nothing but water, and abstaining from the company of his wives during the whole time. He underwent this rigorous fast out of complaisance to some Frenchmen, who had been complaining that it had not been raining for a long time. These inconsiderate persons had not remarked that, notwithstanding the want of rain, the

* Louisiana at that time, 1717, embraced a vast extent of country, nearly the whole of the Mississippi and Ohio valleys.

† Different words are used to express the same idea in speaking to a noble and in speaking to a plebeian. With the Mexicans it was the same custom.

fruits of the earth had not suffered, as the dews are so plentiful in summer as to fully supply that deficiency.*

The guardian of the temple having told me that God had made man with his own hands, I asked him if he knew how that was done. He answered, "that God had kneaded some clay, such as that which potters use, and had made it into a little man; and that, after having examined it, and found it well formed, he blew upon his work, and forthwith that little man had life, grew, acted, walked, and found himself a man perfectly well shaped." As he made no mention of the women, I asked him how he *believed* she was made. He told me, "that probably in the same manner as the men; that their *ancient speech* made no mention of any difference, only told them that the man was made first, and was the strongest and most courageous, because he was to be the head and support of the woman, who was made to be his companion."†

I next proceeded to ask him who had taught them to build a temple; whence had they their eternal fire, which they preserved with so much care, and who was the person who first instituted their feasts. He replied: "A great number of years ago there appeared among us a man and his wife, who came down from the sun.‡ Not that they believed that the Sun had a wife who bore him children, or that these were the descendants of the Sun, but that when they first appeared among us they were so bright and luminous § that we had no difficulty to believe that they came down from the sun. This man told us that having seen from on high that we did not govern ourselves well, that we had no master, that each of us had presumption enough to think himself capable of governing others, while he could not even conduct himself, he had thought fit to come down among us to teach us to live better.

* The dews are so great in that latitude that they drip from the leaves of the cotton-plant.

† The religious faith of a nation is indicative of its civilization and intelligence. Compare the present religious faiths, and even *religious sects* of a nation, and see their marked difference in intelligence and civil progress.

‡ The Indians believed the Spaniards descended from the Sun, called them *tuedes*, the word to express *gods*; and so in the origin of the tradition of a nation, it is some more civilized and enlightened being who introduces their religion, and this religion has always the divine sanction in order to be binding on the people, who blindly submit to superior and mysterious powers, while they condemn the wisest of their own.

§ This *bright* and *luminous* appearance may have been caused by the brilliant armor they wore. When Alexander leaped from the wall of a city of the Malli among his enemies, the brilliancy of his armor, in his descent, astonished his enemies and caused them to recoil.

He moreover told us that, in order to live in peace among ourselves and to please the Supreme Spirit, we must indispensably observe the following points: We must never kill any one but in defence of our own lives; we must never know any other women besides our own; we must never take anything that belonged to another; we must never lie nor get drunk; we must not be avaricious, but must give liberally and with joy a part of what we have to others who are in want, and generously share our substance with those who are in need of it.

The words of this man deeply affected us, for he spoke them with authority, and he procured the respect even of the old men themselves, though he reprehended them as freely as the rest. The next day we offered to acknowledge him as our sovereign. He, at first, refused, saying that he should not be obeyed and that the disobedient would infallibly die, but at length he accepted the offer that was made him, on the following conditions:

That we would go and inhabit another country better than that in which we were, which he would show us; that we would afterwards live conformable to the instructions he had given us; that we would promise never to acknowledge any other sovereign but him and his descendants; that the nobility should be perpetuated by the women in this manner: If I, said he, have male and female children, they being brothers and sisters cannot marry together; the eldest boy may choose a wife from among the people, but his sons shall be only nobles; the children of the elder girl, on the other hand, shall be princes and princesses and her eldest son be sovereign, but her eldest daughter be mother of the next sovereign, even though she should marry one of the common people; and in defect of the eldest daughter, the next female relation to the person reigning shall be the mother of the future sovereign; the sons of the sovereign and princes shall lose their rank, but the daughters shall preserve theirs.

He then told us that in order to preserve the excellent precepts he had given us, it was necessary to build a temple, into which it should be lawful for none but the princes and princesses to enter, to speak to the Spirit,* that in the temple they should eternally

* In regard to the Temple of Jerusalem: "The people were never to go into it; only the priests and such as waited on them, and that at stated times, morning and evening, to light the lamps and offer bread and perfumes. The high priest was the only person who entered into the sanctuary where the Ark of the Covenant stood, nor did he go in oftener than once a year."

Before the temple in the great court was the altar for holocaust, or whole burnt-offerings, that is to say a *platform* thirty cubits square and fifteen high. The priest went up to it by an *easy ascent without steps*, to place the wood and victims in order.

preserve a fire, which he would bring down from the sun, from whence he himself had descended ; that the wood with which the fire was supplied should be pure wood without bark ; that eight wise men of the nation should be chosen for guarding the fire night and day ; that these eight men should have a chief, who should see them do their duty ; and that if any of them failed in it, he should be put to death. He likewise ordered another temple to be built in a distant part of our nation, which was then very populous, and the eternal fire to be kept there also, that in case it should be extinguished in the one it might be brought from the other ; in which case, until it was again lighted, the nation should be afflicted with a great mortality.

Our nation having consented to these conditions he agreed to be our sovereign, and in presence of all the people he brought down the fire from the sun upon some wood of the walnut tree which he had prepared, which fire was deposited in both the temples. He lived a long time and saw his children's children. To conclude, he instituted our feasts such as you see them.

The Natchez have neither sacrifices, libations, nor offerings ; their whole worship consists in preserving the eternal fire, and that the *Great Sun* watches over with peculiar attention. The *Sun*, who reigned when I was in the country, was extremely solicitous about it, and visited the temple every day. His vigilance had been awakened by a terrible hurricane, which some years before had happened in the country.

The Natchez are brought up in a most perfect submission to their sovereign. The authority which their princes exercise over them is absolutely despotic, and can be compared to nothing but that of the first Ottoman emperors. Like these, the *Great Sun* is absolute master of the lives and estates of his subjects, which he disposes of at his pleasure, his will being the only law ; but he has this singular advantage over the Ottoman princes, that he has no occasion to fear any seditious tumult, or any conspiracy against his person. If he orders a man, guilty of a capital crime, to be put to death, the criminal neither supplicates, nor procures intercession to be made for his life, nor attempts to run away. The order of the sovereign is executed on the spot and nobody murmurs. But however absolute the authority of the *Great Sun* may be, and although a number of warriors and others attach themselves to him, to serve him, to follow him wherever he goes, and to hunt for him, yet he raises no stated impositions ; and what he receives from these people appears given, not so much as a right due as a voluntary homage and a testimony of their love and gratitude.

The Natchez begin their year in the month of March, and divide it into thirteen moons. At every moon they celebrate a feast, which takes its name from the principal fruits reaped in the preceding moon, or from the animals which are then usually hunted. I shall give an account of one or two of these feasts as concisely as I can.

The first moon is called that of the *Deer*, and begins their new year, which is celebrated by them with universal joy, and is at the same time an anniversary memorial of one of the most interesting events in their history. In former times a *Great Sun*, upon hearing a sudden tumult in his village, had left his hut in a great hurry in order to appease it, and fell into the hands of his enemies, but was quickly after rescued by his warriors, who repulsed the invaders and put them to flight. In order to preserve the remembrance of this honorable exploit the warriors divide themselves into two bodies, distinguished from each other by the color of their feathers. One of these bodies represent the invaders, and, after raising loud shouts and cries, seize the *Great Sun*, who comes out of his hut undressed, and rubbing his eyes, as though he were just awake. The Great Sun defends himself intrepidly with a wooden tomahawk, and lays a great many of his enemies upon the ground, without, however, giving them a single blow, for he only seems to touch them with his weapon. In the meantime the other party comes out of their ambuscade, attacks the invaders, and, after fighting with them for some time, rescue their prince and drive them into a wood, which is represented by an arbor made of canes. During the whole time of the skirmish the parties keep up the war-cry, or the cry of terror, as each of them seem to be victors or vanquished. The Great Sun is brought back to his hut in a triumphal manner, and the old men, women and children, who were spectators of the engagement, rend the sky with their joyful acclamations. The Great Sun continues in his hut about half an hour, to repose himself after his great fatigues, which are such that an actor of thirty years of age would with difficulty have supported them, and he, however, when I saw this feast, was above ninety. He then makes his appearance again to the people, who salute him with loud acclamations, which cease upon his proceeding towards the temple. When he is arrived in the middle of the court before the temple he makes several gesticulations, then stretches out his arms horizontally, and remains in that position motionless as a statue for half an hour. He is then relieved by the master of the ceremonies, who places himself in the same attitude, and half an hour after is relieved by the great chief of

war, who remains as long in the same posture. When this ceremony is over the *Great Sun*, who when he was relieved had returned to his hut, appears again before the people in the ornaments of his dignity, is placed upon his throne, which is a large stool with four feet, cut out of one piece of wood, has a fine buffalo-skin thrown over his shoulders and several furs laid upon his feet, and receives various presents from the women, who all the time continue to express their joy by their shouts and acclamations. Strangers are then invited to dine with the *Great Sun*, and in the evening there is a dance in his hut, which is about thirty feet square and twenty feet high, and, like the temple, is built upon a mound of earth about eight feet high and sixty feet over on the surface.

The seventh is that of *Maize or Great Corn*. This feast is beyond doubt the most solemn of all. It principally consists in eating in common, and in a religious manner, of new corn which had been sown expressly with that design, with suitable ceremonies. This corn is sown upon a spot of ground never before cultivated, which ground is dressed and prepared by the warriors alone, who also are the only persons that sow the corn, weed it, reap it, and gather it. When this corn is nearly ripe the warriors fix upon a place proper for the general feast, and close adjoining to that they form a round granary, the bottom and sides of which are of cane. This they fill with the corn, and when they have finished the harvest and covered the granary they acquaint the *Great Sun*, who appoints the day for the general feast. Some days before the feast they build huts, for the *Great Sun* and for all the other families, around the granary, that of the *Great Sun* being raised upon a mound of earth about two feet high. On the feast day the whole nation set out from their villages at sun-rising, leaving behind only the aged and infirm, who are unable to travel, and a few warriors who are to carry the *Great Sun* on a litter upon their shoulders. The seat of this litter is covered with several deerskins, and to its four sides are fastened four bars, which cross each other, and are supported by eight men, who at every hundred paces transfer their burden to eight other men, and thus successively transport it to the place where the feast is celebrated, which may be nearly two miles from the village. About nine o'clock the *Great Sun* comes out of his hut dressed in the ornaments of his dignity, and being placed on his litter, which has a canopy at the head formed of flowers, he is carried in a few minutes to the sacred granary, shouts of joy echoing on all sides. Before he alights he makes the tour of the whole place deliberately, and when he comes before the corn he salutes

thrice with these words, *hoo, hoo, hoo*, lengthened and pronounced respectfully. The salutation is repeated by the whole nation, who pronounce the word *hoo* nine times distinctly, and at the ninth time he alights and places himself on his throne.

Immediately after they light a fire by rubbing two pieces of wood violently against each other, and when everything is prepared for dressing the corn the chief of war, accompanied by the warriors belonging to each family, presents himself before the throne, and addresses the Sun in these words: *Speak, for I hear thee.* The sovereign then rises up, bows towards the four quarters of the world, and advancing towards the granary, lifts his eyes and hands to heaven, and says, "Give us corn," upon which the great chief of war, the princes and princesses, and all the men, thank him separately by pronouncing the word *hoo*. The corn is then distributed, first to the female *suns*, and then to all the women, who run with it to their huts, and dress it with the utmost dispatch. When the corn is dressed in all the huts, a plate of it is put into the hands of the *Great Sun*, who presents it to the four quarters of the world,* and then says to the war chief, *eat*. Upon this signal the warriors begin to eat in all the huts, after them the boys of whatever age, and last of all the women. When the warriors have finished their repast, they form themselves into two choirs before the huts and sing war songs for half an hour, after which the War Chief, and all the warriors in succession, recount their brave exploits, and mention in a boasting manner the number of enemies they have killed.† The youths are next allowed to harangue, and each tells in the best manner he can, not what he has done, but what he intends to do, and if his discourse merits approbation he is answered by a general *hoo*; if not, the warriors hang down their heads and are silent.

This great solemnity is concluded with a general dance by torch-light. Upwards of two hundred torches of dried canes, each of the thickness of a child, are lighted around the place, where the men and women often continue dancing till daylight.

Next morning no person is seen abroad before the *Great Sun* comes out of his hut, which is generally about nine o'clock, and then upon a signal made by the drum, the warriors make their

* This custom or ceremony is general among the Indians of North America, especially on all solemn occasions, as when smoking the pipe of peace, in making treaties, etc. The chief first presents the pipe to the four quarters of the world, gives a puff of smoke to each, and then passes it to the next person, who takes a suck or two, and passes it on, etc.

† This ceremony is practiced among many of the North American tribes of Indians.

appearance, distinguished into two troops by the feathers which they wear on their heads. One of these troops is headed by the Great Sun and the other by the War Chief, who begin a new diversion by tossing a ball stuffed with moss from the one to the other. The warriors quickly take part in the sport, and a violent contest ensues, which of the two parties shall drive the ball to the hut of the opposite chief. The diversion generally lasts two hours, and the victors are allowed to wear the feathers of superiority till the following year, or till the next time they play at ball. After this the warriors perform the war dance, and last of all they go and bathe.

The rest of the day is employed as the preceding, for the feast holds as long as any of the corn remains. When it is all eaten, the Great Sun is carried back in his litter, and they all return to the village, after which he sends the warriors to hunt both for themselves and him.

The feasts which I saw celebrated in the chief village of the Natchez, which is the residence of the Great Sun, are celebrated in the same manner in all the villages of the nation, which are each governed by a Sun, who is subordinate to the Great Sun, and acknowledges his absolute authority.

The Suns are the descendants of the man and woman who pretended to have come down from the sun. Among other laws they gave to the Natchez, they ordained that their race should always be distinguished from the bulk of the nation, and that none of them should ever be put to death on any account.

Although all the people of Louisiana* have nearly the same usages and customs, yet as any nation is more or less populous, it has more or fewer ceremonies. Thus, when the French first arrived in the colony, several nations kept up the eternal fire, and observed other religious ceremonies, which they have now disused since their numbers have been greatly diminished. Many of them still continue to have temples, but the common people never enter these, and no strangers unless particularly favored by the nation. As I was a particular friend of the sovereign of the Natchez, he showed me their temple, which is about thirty feet square, and stands upon an artificial mount about eight feet high, by the side of a small river (St. Catharine). The mount slopes insensibly from the main front, which is northward, but on the other side it is somewhat steeper. The four corners of the temple consist of four posts about a foot and a half in diameter and ten feet high, each made of the heart of the cypress-tree, which is incor-

* The Louisiana of 1717.

ruptible. The side-posts are of the same wood, but only about a foot square, and the walls are of mud about nine inches thick, so that on the inside there is a *recess* between every post. The inner space is divided from east to west into two apartments, one of which is twice as large as the other. In the largest apartment the eternal fire is kept, and there is likewise a table or altar in it about four feet high, six feet long, and two feet broad. Upon this table lie the bones of the late Great Sun, in a coffin of canes very neatly made. In the inner apartment, which is very dark, as it receives no light but from the door of communication, I could meet with nothing but two boards, on which were placed some things like small toys, which I had not light to peruse. The roof is in the form of a pavilion, and very neat both within and without, and on the top of it are placed three wooden birds twice as large as a goose, with their heads turned towards the east. The cornice and side-posts rise above the earth ten feet high, and it is said the latter are as much sunk in the ground. Besides the eight guardians of the temple, two of whom are always on the watch, and the chief of those guardians, there also belongs to the service of the temple a master of the ceremonies, who is also master of the mysteries; since, according to them, he converses very familiarly with the Spirit. Above all these persons is the Great Sun, who is at the same time chief priest and sovereign of the nation.

The temples of some of the nations of Louisiana are very mean, and one would be very apt to take them for the huts of private persons; but to those who are acquainted with their manners they are easily distinguishable, as they have always before the door two posts formed like the ancient *Termini*, that is, having the upper part cut into the shape of a man's head. The door of the temple, which is pretty weighty, is placed between the wall and these two posts, so that the children may not be able to remove it to go and play in the temple. The private huts have also posts before their doors, but these are never formed like *Termini*.

None of the nations of Louisiana are acquainted with the custom of burning their dead. The different American nations have a most religious attention for their dead, and have some particular custom in respect to them; but all of them either inter them or place them in tombs, and carefully carry victuals to them for some time. These tombs are either within their temples or close adjoining them or in their neighborhood. They are raised about three feet above the earth and rest upon four forked stakes fixed in the ground. The tomb, or rather bier, is about eight feet long and a foot and a half broad; and after the body is placed upon it

a kind of basket-work of twigs is woven round it and covered with mud, an opening being left at the head for placing the victuals that are presented to the dead persons.* When the body is all rotted but the bones, these are taken out of the tomb and placed in a box of canes, which is deposited in the temple. They usually weep and lament for the dead three days, but for those who are killed in war they make a much longer and more grievous lamentation.

Among the Natchez the death of any of their Suns is a most fatal event, for it is sure to be attended with the destruction of a great number of people of both sexes.

Early in the spring of 1725 the *Stung Serpent*, who was the brother of the Great Sun, was seized with a mortal distemper, which filled the whole nation of the Natchez with the greatest consternation and terror, for the two brothers had mutually engaged to follow each other to the land of spirits, and if the Great Sun should kill himself for the sake of his brother very many people would likewise be put to death.

The death of the Stung Serpent was published by the firing of two muskets, which was answered by the other villages; and immediately cries and lamentations were heard on all sides. The Great Sun in the meantime remained inconsolable, and sat bent forward with his eyes towards the ground. In the evening, while we were still in his hut, he made signs to his favorite wife, who, in consequence of that, threw a pailful of water on the fire, and extinguished it. This was the signal for extinguishing all the fires of the nation, and filled everyone with terrible alarms, as it denoted that the Great Sun was still resolved to put himself to death. I gently chided him for altering his former resolution,† but he answered me that he had not, and desired us to go and sleep securely. We accordingly left him, but we took up our lodging in the hut of his chief servant.

Before we went to our lodgings we entered the hut of the deceased, and found him on his bed of state, dressed in his finest clothes, his face painted with vermillion, shod as if for a journey, with his feathered crown on his head. To his bed was fastened his arms, which consisted of a double-barreled gun, a pistol, a bow, a quiver full of arrows, and a tomahawk; around his bed was placed all the calumets of peace he had received during his

* In the accounts of persons buried in stone slabs, one end of the coffin is not closed with a slab. This may have been the *outward* end, so that the relatives of the dead might make offerings to them.

† He had promised not to kill himself.

life; and on a pole planted in the ground near it hung a chain of forty-six rings of cane, painted red, to express the number of enemies he had slain. All his domestics were around him, and they presented victuals to him at the usual hours, as if he were alive. The company in his hut was composed of his favorite wife, of a second wife, whom he kept in another village, of his chamberlain, of his physician, his chief domestic, his pipe-bearer, and some old women, who were to be strangled at his interment. To these victims a noble woman voluntarily joined herself, resolving, from her friendship to the Stung Serpent, to go and live with him in the land of spirits. I regretted her on many accounts, but particularly as she was intimately acquainted with the virtues of simples, had by her skill saved the lives of many of our people, and given me many useful instructions. After we had satisfied our curiosity in the hut of the deceased we retired to our hut, where we spent the night. But at daybreak we were suddenly awaked and told that it was with difficulty the Great Sun was kept from killing himself. We hastened to his hut, and upon entering it I remarked terror and dismay painted upon the countenances of all who were present. I addressed myself to him, and chided him gently for his not acting according to his former resolution. At length he consented to order his fire to be again lighted, which was the signal for lighting the other fires of the nation, and dispelled all their apprehensions.

Soon after the natives began the dance of death and prepared for the funeral of the Stung Serpent. Orders were given to put none to death on that occasion but those who were in the hut of the deceased. A child, however, had already been strangled by its father and mother, which ransomed their lives upon the death of the Great Sun, and raised them from the rank of *Stinkards* to that of *Nobles*. Those who were appointed to die were conducted twice a day and placed in two rows before the temple, where they acted over the scene of their death, each accompanied by eight of their own relations, who were to be their executioners, and by that office exempted themselves from dying upon the death of any of the Suns, and likewise raised them to the dignity of men of rank.

On the day of the interment the master of the ceremonies appeared in a red-feathered crown which half encircled his head, having a red staff in his hand, in the form of a cross, at the end of which hung a garland of black feathers. All the upper part of his body was painted red, except his arms, and from his girdle to his knees hung a fringe of feathers, the rows of which were alternately white and red. When he came before the hut of the

deceased he saluted him with a great *hoo*, and then began the cry of death, in which he was followed by the whole people. Immediately after the Stung Serpent was brought out on his bed of state, and was placed on a litter, which six of the guardians of the temple bore on their shoulders. The procession then began, the master of the ceremonies walking first, and after him the oldest warrior, holding in one hand the pole with the rings of cane, and in the other the pipe of war, a mark of the dignity of the deceased. Next followed the corpse, after which came those who were to die at the interment. The whole procession went three times around the hut of the deceased, and then those who carried the corpse proceeded in a circular kind of march, every turn intersecting the former, until they came to the temple. At every turn the dead child was thrown by its parents before the bearers of the corpse, that they might walk over it; and when the corpse was placed in the temple the victims were immediately strangled. The Stung Serpent and his two wives were buried in the same grave within the temple; the other victims were interred in different parts; and after the ceremony they burnt, according to custom, the hut of the deceased.

CHAPTER XXI.

Tumuli—Sultzertown Mound—Macon Mound.

THE largest and most remarkable mound in the Natchez district is that at Sultzertown (now, 1895, a mere name), twelve miles eastwardly of Natchez.

Breckenridge, in the notes to his "Views of Louisiana," has the following: "I have been favored by my friend, the Rev. Mr. Schemerhorn, with an account of a mound near Sultzertown, Mississippi Territory. At Sultzertown, M. T., six miles from Washington, is a very remarkable Indian mound, and in every respect different from any I have seen in Ohio or Kentucky. It is not like those raised on a plain, or the river alluvium, but the land around it is very uneven or rolling, and from the gradual descent of the ground from its very base, we should be naturally led to conclude that here they had taken advantage of the natural position. Instead of raising with much labor the huge pile of earth they have had little else to do than, by levelling, to form the mound agreeable to their designs.

Its form is a parallelogram whose sides bear the proportions to

each other of two to three, and, measured at the *outside of the ditch*, contains more than *six acres*. The *first elevation* is forty feet, the area of which *may contain four acres*. On the *west side* of the parallelogram, *about the middle*, is a circular mount whose diameter is fifty feet, and which measures from the base (the ground) eighty-six feet. Opposite to it, *on the east end*, is a similar mount whose height is fifty feet, but appears to have been considerably higher. The *north and south sides*, which are the largest, have each *three or four lesser elevations*, but which are considerably washed down, the whole of the mound having been frequently plowed and many a valuable crop raised on it, but was originally, I suppose, at least ten feet above the first elevation. The whole, surrounded by a deep ditch which, particularly at the east and west sides, is still very perceptible. On the south and north sides are passages out and in.*

That it was admirably calculated for a place of defence no one can doubt who considers its extent, its height, its ditch, particularly if palisadoed and military works were erected on the highest mounds or towers. If we suppose it to be dedicated to purposes of devotion, and the people to be worshippers of the heavenly bodies, the different heights of the mounds and their situation would lead us to conjecture that the highest was consecrated to the sun, the next to the moon, and the lesser ones to the stars; but when we find that this has been the idolatry of some of the aborigines, is there not a foundation for the conjecture?

Human skeletons have been found in many of these mounds. Mr. Griffin, the owner of the Sultzer mounds, informed me that his sons, some few years since, had brought to him some of the bones of a human skeleton, particularly the head, and bones of the leg, which they discovered in this mound on one of the sides where the earth had been washed away. The skull, he observed, was uncommonly large, the bones of the leg and thigh much longer and larger than of common men, and that he supposed the skeleton, which unfortunately was never taken up entirely, would have measured between six feet six inches and seven feet."

It is worthy of remark that Du Pratz mentions that the Natchez deposited the remains of their *Suns* or chiefs in the parts of the temple where was kept the eternal fire. Might not this fact account for the finding of skeletons in some of them?

* Of all these "elevations" (mounds) on the summit of the main mound there remained, when I saw this tumulus, not many years ago, only the first, about the middle of the west side, and some vestiges of another. One of the two ascents or "passages" was still to be seen. It was formed as the "terrace" which led to the top of the Cartersville mound.

B. S.

I see no reason why we may not suppose some of the largest of them to have been designed for all these purposes—burial, religion, and defence. The altars of religion, however absurd may be the theology of some nations, superstition will render dear to them as their lives. If so, it was necessary in the early ages that such places should be secured and defended. It is not uncommon to read in history of nations who made their last stand against their enemies in their temples and around their altars.

And again there is a principle in human nature to show respect for great and good men even after their death. This has been instanced in almost every nation. I shall only allude to the practice among the British of showing respect to departed greatness and merit in placing their monuments in Westminster Abbey."

The Rev. Mr. Miller also communicated to Mr. Breckenridge the following account of the Sultzertown mound :

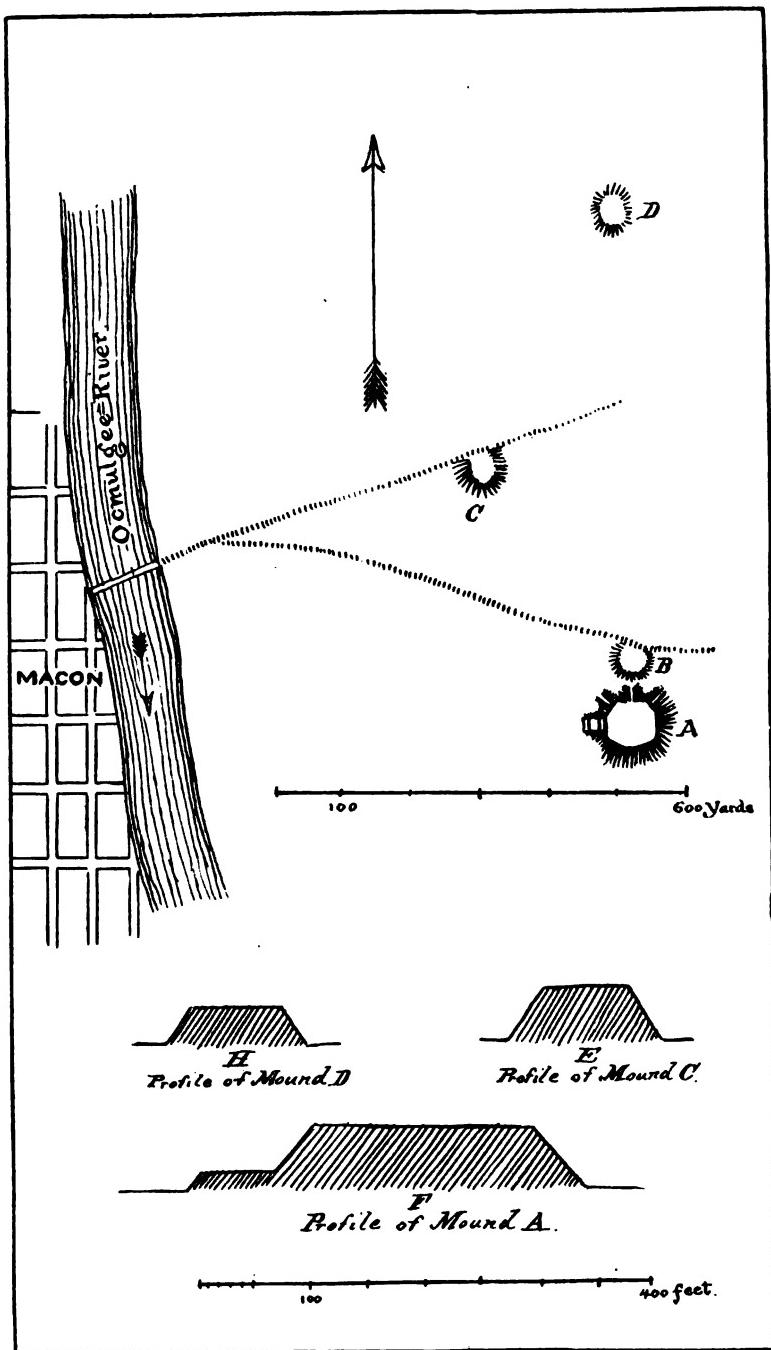
"At Sultzertown, near Washington, in the Mississippi territory, there is an ancient fortification. It is in the form of a parallelogram, including three or four acres measured at the base. The mound was raised forty-six feet above the common level of the ground; near the middle of the west line was raised a large mound of circular form forty feet above the first level of the fortification, making the distance from the top of the mound eighty-six feet above the common level of the ground.

The top of this mound had been plowed and somewhat worn down. It was six or eight paces across it. When the present proprietor took possession of his plantation, upon which the fortification stands, about twenty years ago, the country around was timbered and covered with limebrakes.* There was at that time no timber growing upon the fortification of more than a foot diameter. *Opposite the high mound on the west line, was another mound on the east, but not so high, about fifty feet above the common level of the ground.*

In the middle of the north and south lines were the appearances of ways to ascend and descend the fortification; on each side of these apparent passways was a mound rising not more than ten feet above the fortification, but near fifty feet above the level of the ground around. There was remaining a part of the way round the base a ditch, in some places, at the time I saw it, nearly twenty feet deep. Human bones of a large size have been found near the mound."

Ten or twelve years ago I visited this mound. It appeared to me only partly artificial, and that the makers of it had taken ad-

* Probably "lime" brakes should be canebrakes.



THE TUMULI NEAR MACON, GEORGIA.

vantage of the form of an elevation to shape it so as to make this mound. It is at the head of a ravine, and much higher on the side of the ravine than on the opposite side. It did not appear to me nearly as high as the two accounts make it. There was on the top of the great mound a mound about ten or twelve feet high, flat on the top, which was about twelve or fifteen feet in diameter (as well as I can remember and form an idea of it). This mound commanded the ascent to the top of the main mound, being situated near its edge, where the roadway passed below it, or as the Mills account has it, "in the middle of the west line." Opposite this smaller mound, and near the edge of the main mound, was a shapeless mass of earth, which appeared to indicate that there had been some structure there. I have seen an account which mentioned that there were *seven altars* on the summit of this great mound. The shapeless heap, just mentioned, may have been one of the altars. The elevations of this great mound given in the two accounts above appear to me exaggerated. But as the accounts here given are probably the earliest, the work then was nearer its original state than at any time since, and great changes may have since been made by the removal of some and the deterioration of others of these works. The best description may be gathered from these two accounts.

Large men and strong men have existed among all nations, Goliaths and Charlemagnes, Samsons and Herculeses. But there is no record of a nation of extraordinary large men. The mummies of Egypt at no period indicate the human size to have been greater than at present.

In the "Antiquities of the Southern Indians," by Charles C. Jones, there is a description of the remarkable mound [17] on the left side of the Ockmulgee River, below and a little more than a mile from the city of Macon, from which the following is taken: "This mound, A, is located upon the summit of a natural hill, and occupies a commanding position. The earth of which it is composed was gathered in the valley and conveyed to the top of the hill, so as in the end to increase its elevation by some forty-five or fifty feet. The summit diameters of this tumulus, measured north and south, and east and west, are respectively one hundred and eighty and two hundred feet. On the west is an artificial plateau, still about eight feet high, seventy-two feet long, and ninety-three feet wide. On the north and east are three spurs or elevated approaches, over which, as paths, the laborers during the construction of the mound carried their burdens of sand and clay in cane baskets, and by means of which, when the tumulus

was completed, ascent to its summit was rendered more facile. It is not improbable that this was a temple-mound, used by priests and devotees in their established worship of the Sun.

One hundred feet north of this tumulus is a second mound, B, about forty feet high, *elliptical* in shape, with a summit diameter, measured in the direction of the major axis, of one hundred and twenty-eight feet. Northwest of this mound, and distant between three and four hundred yards, is the third of the group, C, its outlines marred by the elements, and its northern slope carried away by the excavations for the new track of the Central Railway. It is still about forty feet high, and is conical in form—its mean summit diameter being about eighty-two feet. On its top is the decayed stump of a tree more than five feet thick.

About four hundred yards in a northeasterly direction from this mound is the last tumulus of the series, D. In general characteristics it closely resembles the mound last mentioned. These mounds are all flat on their summits, and may be described as truncated cones, with the exception of the temple-mound, which assimilates the form of an octagonal truncated pyramid. The temple-mound was erected for religious purposes; the others were heaped up, probably in honor of the dead. Upon the acclivity east of the central mound are manifest remains of an aboriginal settlement. Here, in excavating for the new track of the Central Railway, the workmen a short time since unearthed, a few feet below the surface, several skeletons, in connection with which were found beads of shell and porcelain, a part of a discoid stone, several arrow and spear-points, two stone celts, a clay pipe, an earthen pot and other matters of a primitive character, fashioned for use or ornament.

This excavation for the line of the railway necessitated the removal of a considerable portion of the northern side of the central mound. In the conduct of this work the laborers, while cutting through the slope of the mound, and at the depth, perhaps, of three feet below the superior surface, exhumed several skulls, regular in outline and possessing the ordinary characteristics of American crania. Associated with these skeletons were stone implements—the handiwork of the red race—Venetian beads and copper hawk-belts acquired through commercial intercourse with the early traders and voyagers. The fact was patent that at least some of these inhumations had occurred subsequent to the period of primal contact between the European and the Indian.

Passing below these interments—which were evidently second-

ary in their character—and arriving at the bottom of the mound, a skull was obtained which differed most essentially from those we have described as belonging to a later inhumation. It was vastly older than those of the secondary interments, and had been artificially distorted to such an extent that the cerebellum was quite obliterated, while the front portion of the skull had not only been flattened, but irregularly compressed so as to cause an undue elevation and divergence to the left.

Among the relics found in the vicinity of this artificially-compressed skull was a total absence of European ornaments. Here we have an interesting demonstration of the fact that these ancient tumuli were in turn used by tribes who, perhaps, had no knowledge the one of the other. The flattened and distorted skull belongs to the mound-building people, to whose industry the erection of these tumuli is to be referred. It was in perpetuation and in honor of such primal sepulture that this mound was heaped up. In the course of time these sepulchral and temple-structures, abandoned of their owners, passed into the hands of other and later red races, who buried their dead upon the interior surface and along the slopes of these ancient tumuli, having at the time, perchance, no personal acquaintance with, and frequently not even a distinct tradition of, the people to whose exertions these evidences of early constructive skill were attributable.

The very generations of the dead
Are swept away, and tomb inherits tomb,
Until the memory of an age is fled,
And buried, sinks beneath the offspring's doom.—BYRON.

Who these flat-head mound-builders were is matter for conjecture. It may be that they were a colony of the Natchez, journeying hither from their old habitance on the banks of the Mississippi.

Below these mounds, in the valley-lands of the Ockmulgee, upon Lamar's plantation, are several large tumuli. The presence of these mounds and the numerous relics scattered through the length and breadth of the valley for miles, afford ample testimony that this rich alluvial soil was once the seat of a numerous and, perhaps, permanent population."

My first view of this temple mound was in the fall of 1881. A few years since I had curiosity to visit it again, and, from my observations made at these visits, I formed the idea that this mound was not wholly artificial. It is on a point of the highland projecting into the lowlands of the Ockmulgee river, and was probably a prominent elevation of which the builder took advantage for

the formation of this mound by excavating the ground on two sides—the north and west—and heaping it on the summit of the elevation. Earth could not be taken from the other two sides, on account of the declivity of the highland on those two sides.

I observed no indication of terraces, no inclined plane or ramp for ascending to the top of the mound. But I believe that this mound was terraced and that the ascent was made by steps or an inclined plane leading from the base of one terrace to the next, as described in the account of the teocalli of Mexico. Time and the elements have obliterated in this mound, as it has probably in many others, the angles, terraces, platforms and altars that originally were distinct in these structures.

This mound had been occupied by troops in the late war, and an entrenchment had been made on its summit, so as to embrace all the area of the summit, the earth from the ditch being heaped on the edge of the declivity of the mound, thus forming a breast-work. The water accumulated in this ditch had burst its barrier, flowed down the south side of the mound, and made a considerable ravine.

The top of this mound, as the top of that at Sultzertown, had been cultivated, and it is also probable that this cultivation has not only reduced the elevation, but has also destroyed every structure that may have originally been raised on its summit. The mound on the edge of the railroad excavation is, as the temple mound, denuded of trees and quite bare.

The Choctaws and the Caribbs flatten the head, and I heard many years ago that a human skull flattened in a manner similar to the flattened skull found in the middle mound of the Macon group was discovered in the Sultzertown mound. There were and still are Indians who flatten the heads of their children when infants. James G. Swan, in his book entitled "The North West Coast; or, Three Years' Residence in Washington Territory," has the following, in speaking of some of the coast tribes of Indians between the Columbia River and Fuca Straits: "The most singular custom among these Indians is that of flattening or compressing the head of the infant. Where this custom originated is hard to tell. Lewis and Clark state that it is not peculiar to that part of the continent. But wherever it began, or what was its origin, the practice is now universal among the tribes west of the Rocky Mountains, in the region of Columbia, and it is confined to them, for, with the exception of the Snake Indians, who are called *Flat Heads*, the fashion is not known to the east of that barrier.

This pressure on the forehead causes the head to expand lat-

erally, giving an expression of great broadness to the face ; but I never perceived that it affected the mind at all, although it disfigures them very much in appearance. I have seen several whose heads have not been thus pressed, and they were smart, intelligent, and quite good-looking, but they were laughed at by the others, who asserted that their mothers were too lazy to shape their heads properly. But although I have seen persons with and others without this deformity, I never could discover any superiority of intellect of one over the other."

CHAPTER XXII.

Tumuli—Views of a Member of the First Congress—The Works on Little River, Georgia—Bartram's Description of them, of Cullsate, of Sticoe, of Keowee—Ancient Tombs and Fortifications on the River Huron, or Bald Eagle—Ancient Works near Newark, Ohio—Ancient Fortifications at Marietta—The Ancient Works at Grave Creek, Virginia—Schoolcraft's Visit to them.

THE following is from a work entitled "Voyage dans La Haute Pennsylvanie," published at Paris in the year 1801 :

"I have the following details relative to artificial mounds and arenas which are seen in Georgia and the two Floridas, of Mr. B—, elected member of Congress at the birth of the new Government, and for four years since Senator of the United States.*

We know by the tradition of the Cherokees that at the period of the arrival of their ancestors from the mountains of Mexico these great works were very nearly the same as we see them now, and that the most ancient among the Savannucas† were ignorant when and by whom they had been raised. This invasion took place about the end of the fifteenth century. If we suppose that, among a nation of hunters, three hundred years were sufficient to efface the last souvenirs of tradition, then the existence of these monuments ascends to the twelfth century. How much it is to be regretted that these feeble lights are extinct! What could be the cause of this absolute silence? Does it come from the high antiquity of these works, or from the stupid ignorance of our aborigines? Was this ancient people aboriginal? How many centuries has it existed as a nation before having been able to raise these pyramids and dig these arenas? For what use were they

* Probably Mr. Baldwin, of Georgia.

† The name of the ancient natives of Georgia and the mountains of Tennessee.

destined? What is the degree of civilization to which men can arrive without the knowledge of the use of iron? What were the religious opinions to which these pyramids were adapted? What has been the fate of these ancient nations? Could they have been destroyed by some great catastrophe of nature? That is not probable, since the works, entirely constructed of earth, still exist. Could they have been exterminated by barbarians from the interior of the continent? If so, how conceive that a numerous people, capable of raising so imposing and massive ones, could be entirely destroyed, and that the lights and knowledge that they had acquired have perished with it, without those who would have escaped having carried elsewhere its lights and its knowledge, or, finally, without the conquerors having preserved some sparks of it?

Is the period of its existence posterior, or is it anterior to that of this ancient people which raised on the borders of the Ohio and elsewhere entrenched camps which have been discovered for many years? After an attentive examination of these works alike made of earth, and in which, as well as in the first, there is not found any indication of iron nor of any dressed stone, we can believe them cotemporary. If we conceive that a pacific people such as that which inhabited this State and the two Floridas have been destroyed by barbarous nations, to what cause shall we attribute the entire disappearance of the warlike nations of the Ohio, which could raise ramparts so formidable and choose positions so military? If these works date from the same epoch (which appears very probable), the same unknown cause would have destroyed at the same time the warlike people and the pacific nation, although separated by a distance of more than two hundred leagues.

Like to the pyramids of Egypt, these traces of the existence, of the industry, and of the civilization of these ancient peoples, are no more than useless and mute witnesses, whose relation with the ancient state and things of this part of the world are enveloped and lost in the vague darkness of the past. However, although these entrenched camps, these works, are but as imperceptible points, hillocks, compared with the grandeur of those rivals, of ages raised on the borders of the Nile, they present to the view of the observer what America contains of the most ancient and most extraordinary and of the most worthy to be attentively examined.

But, finally, since we cannot form conjectures more probable, we must therefore believe that these industrious and peaceable nations must have been exterminated by some barbarous hordes from the

interior of the country, who, in the course of ages, must have been destroyed by other tribes not less ferocious, these latter by the Cherokees driven from the mountains of Mexico, and finally these last by the men from Europe. Such has been the fate of nearly all nations. All have undergone nearly the same vicissitudes, all have had to struggle or have been the sport and the victims of the caprice of that formidable power, unknown, which we call destiny, fatality, or chance.

Twenty miles from Wrightsburg, not far from the borders of Little River, are seen, in the midst of a fertile plain, many artificial hillocks whose bases are from seven hundred to eight hundred feet in circumference, and from thirty to forty feet in height; a pyramid whose dimensions are more considerable; four terraces of a square form, having from ten to twelve feet of elevation; and, finally, an arena ~~the~~, with four ranges of banquettes, which, as far as I could judge of ~~the~~, could contain three thousand spectators; and further still the evident marks of trenches and of ancient cultivation, in which enormous oaks grow; I measured some of them that were four feet seven inches in diameter. The pyramid alone, whose height might be fifty-five feet, must have required the labor of some thousands of men during several years; as to its form, thanks to the thick bushes, as well as to the roots of the trees which covered it, it still exists almost entire.

1801

Farther to the west, on the borders of a great natural prairie, one sees works much like these last, but whose dimensions are smaller, or which have been more deteriorated by the rapacity of time.

At some distance from the borders of the Ockmulgee, whose union with the Oconee forms the Altamaha, are also to be seen the evident traces of the long and persevering industry of an ancient people, such as some remains of terraces, arenas, mounds, and pyramidal elevations, near which are found fragments of pottery of a kind much more improved than those of which our natives make use.

The most important work, and the most worthy to excite curiosity, is in the neighborhood of Fort Dartmouth, on the borders of the Keowee (eastern branch of the Savannah), one hundred miles above the town of Augusta.* The first object which strikes the eye of the traveller is a circular pyramid whose base is one thousand feet, or about, in circumference, whose height is seventy

* "Capital of Georgia, built on a beautiful plain at the extremity of the maritime navigation of the Savannah River, at one hundred leagues from the sea, on the route that leads to the Creek nations and to the Mississippi."

feet, as well as I could judge of it without the assistance of instruments, and whose summit is crowned with cedars. It is ascended by a spiral path, on which, at different elevations, and facing the four cardinal points, are four niches. From the top of this pyramid are discovered many other elevations less important. Some are square, others in the form of parallelograms; some are two hundred feet in length and from five to twelve feet in height. But what is still more astonishing is a causeway of more than three miles in length, which the water of the river never overflows, although it washes the base of the pyramid in the frequent inundations."

I will here interrupt this Congressman's narration to insert an interesting description of the same works by William Bartram, the Philadelphia botanist.

The following is William Bartram's account of his visit to these monuments, in April or May, 1776: "Towards evening I crossed Broad River at a good ford, just above its confluence with the Savannah, and arrived at Fort James, which is a fine square stockade with salient bastions at each angle, mounted with a block-house, where are some swivel-guns, one story higher than the curtains, which are pierced with loop-holes breast-high, and defended by small-arms. The fortification encloses about an acre of ground, wherein is the governor's or commandant's house, a good building, which is flanked on each side by buildings for the officers and barracks for the garrison, consisting of fifty rangers, including officers, each having a good horse well equipped, a rifle, two dragoon-pistols, and a hanger, besides a powder-horn, shot-pouch and tomahawk. The fort stands on an eminence in the forks between the Savannah and the Broad Rivers, about one mile above Fort Charlotta, which is situated near the banks of the Savannah, on the Carolina side. Fort James is situated nearly at equal distances from the banks of the two rivers, and from the extreme point of the land that separates them. The point or peninsula between the two rivers, for the distance of two miles back from the fort, is laid out for a town, named Dartmouth.

I made a little excursion up the Savannah River, four or five miles above the fort, with the surgeon of the garrison, who was so polite as to attend me, to show me some remarkable Indian monuments, which are worthy of every traveller's notice. These wonderful labors of the ancients stand in a level plain very near the bank of the river, now twenty or thirty yards from it. They consist of conical mounts of earth and four square terraces, etc. The great mount is in the form of a cone, about forty or fifty feet

high, and the circumference of its base two or three hundred yards, entirely composed of the loamy rich earth of the low grounds. The top, or apex, is flat; a spiral path or track leading from the ground up to the top, is still visible. There appear four niches excavated out of the sides of this hill, at different heights from the base, fronting the four cardinal points; these niches are entered from the winding path.

It is altogether unknown to us what could have induced the Indians to raise such a heap of earth in this place, the ground for a great space around being subject to inundation at least once a year. It is reasonable to suppose, however, that they were to serve for some important purpose in those days, as they are public works, and would have required the united labor and attention of a whole nation, circumstanced as they were, to have constructed one of them almost in an age. There are several less ones round about the great one, with some very large tetragon terraces on each side, nearly one hundred yards in length, and their surface four, six, eight, and ten feet above the ground on which they stand.

We may, however, hazard a conjecture that, as there is generally a narrow space or ridge in these lowlands immediately bordering on the river's bank, which is eight or ten feet higher than the adjoining low grounds that lie betwixt the stream and the heights of the adjacent mainland, which, when the river overflows its banks, are many feet under water, when, at the same time, this ridge on the river bank is above water and dry, and at such inundations appears as an island in the river, these people might have had a town on this ridge, and this mound raised for a retreat and refuge in case of inundations."*

Returning to the Congressman, he continues: "Six miles further we enter into another valley, as beautiful and as cool, known under the name of Cullstate, in the middle of which are seen great and long terraces, and two pyramids from thirty to thirty-five feet in height. This valley is not exposed to the inundation of the Keowee.

Farther still, in the mountains, not far from the site of the ancient town of Sticoe, is seen another pyramid, whose circumference is eight hundred feet, and the height forty-eight, with very considerable terraces. The same objects are found at Cowee, capital of one of the most beautiful and most fertile valleys of Tennessee, as well as many conical tombs. An old Cherokee chief told me that

* This "ridge on the river bank" was probably a levee—dike.

at the time of the invasion of his ancestors these tombs and these artificial mounds existed in very nearly the same condition.

At some miles from Fort Prince George of Keowee are also seen many conical elevations, which are believed to be tombs, and four artificial hillocks covered with trees and bushes. At Watoga, a very considerable Cherokee town, there is a pyramid whose height the inhabitants have reduced twenty feet, on which they have erected their rotunda, or place of council. The old Oweekamwee repeated to me what I had heard at Cowee relative to the traditions of the ancient Savannucas.

Not far from the town of Keowee they have lately discovered some other ancient works, the only ones that bore the imprint of the hammer. They are composed of four stones, six feet long and three feet wide; two of these stones are placed edgewise, in a parallel direction, a third covers them, and the fourth closes one of the extremities.

They have long ago discovered in the two Floridas monuments like to the first, also causeways which appear to have been raised to form ponds, some roads running straight and perfectly level, which led to the neighboring savannas; some fragments of vases and of elegant pottery. The most important of these works are situated near Lake George, on the river St. John, also at Tensas, on the Mobile, at Otassee, at Ufala, Talassee, Muclassee, on the Talapoosa, or Oakfuska, at Kiolege, on the Coosa, at Uche, on the Apalachuela, etc.

Is it not surprising that the natives consider with the greatest indifference these ancient and respectable evidences of the long sojourn, and of the industry of nations which have preceded them, and which in remote times inhabited and cultivated this beautiful part of the continent? It is the same with the whites, who traded with or resided among them. A young man, a good geometer and tolerable delineator, undertook to draw the plans, and to sketch views of them; but unfortunately several Seminole hunters, having met him, took him for some one who came secretly to survey their lands (which in their eyes is an unpardonable crime), and were going to kill him, when he had the presence of mind to show them his designs. They led him to the Myco of the village, who released him; but through condescension for these hunters he cast into the fire his designs and plans and forbade him to appear among them with any instrument."

Details of ancient fortifications situated on the river Huron or Bald Eagle, which flows into Lake Erie, sent to General Washington, the 29th of June, 1789, by A. Steiner [18].

FORTIFICATIONS DES ANCIENS INDIGENES,
Sur la riviere Huron ou Angle Chauve
comme fut entrepris au commencement de l'assassinat.

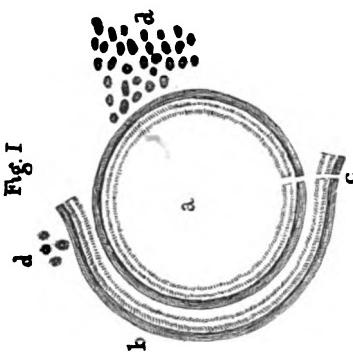
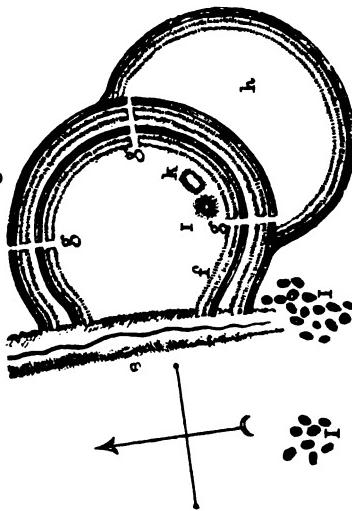


Fig II.



Echelle de 100 Toises
23 75 75 75

"The first of these fortifications, No. 1, is situated at two hundred and twenty toises from the eastern bank of this river, at eight miles above its mouth, in this lake. It is a plateau, A, of three hundred feet in diameter, and of an ordinary elevation, surrounded by a circular platform from three feet and a half to five feet in height, and from seven to eight in thickness. Twenty-four feet beyond this first rampart there is seen another, B, having the same height and the same thickness, but which is a semicircle. In the same manner as the first it is surrounded with a ditch from four to six feet in width, still filled with water. There is upon this esplanade neither stones nor any vestiges of ancient edifices. The entrance, C, is not defended by any advanced work. Towards the north-east are seen thirty-four tombs, D, from sixty to seventy feet in circumference, and from three to four feet in height, the forms of which are partly circular and elliptical. The first are but five feet from the ditch; there are four others, D, towards the north-west, whose dimensions are the same.

Two miles lower, on the borders of the declivity, E, of the little stream that flows into the Huron, there is seen a mound, No. 2, surrounded by a double platform and ditches, which begin and terminate on the same declivity. The only difference is that instead of one entrance, this little entrenched camp has three, G. Towards the south there is another plateau, H, likewise accompanied with its ditch, but the form of which is not a perfect circle, and which appears to have been raised only to cover the two principal entrances. Not far from the most southern are two elevations of earth, K, I, which touch the wall or platform. The first, which is circular, is fifty feet in diameter, and only two and a half in height; the second is a square of the same height, and seventy feet each side. The tombs which are in the vicinity of this entrenched camp are not numerous; some others are seen more distant in the same direction.

These ancient fortifications are covered with bushes and with trees whose trunks are from eighteen to twenty inches in diameter. On the summit of one of these tombs I observed a dead oak that was thirty inches in diameter. The earth in this country is a clay, on which there is a very thin layer of vegetable soil. The forests consist of white and red oaks, beech and linden trees. The natives, who are a mixture of Chippeways, Delawares and Wyandots, told me that according to tradition these military works had been raised by men much larger and stronger than they. That then all the nations were in a state of continual war, that

their hunters had discovered many other fortifications, some like to these, and others more considerable; and that these ancient natives made use of the scapula of the stag and the elk as we make use of the iron shovel."

The following description of the earthworks at Newark, Ohio, is from "Antiquities of the West," by Caleb Atwater:

"Between the two branches of Licking river, Raccoon creek and South fork, near Newark, in the State of Ohio, are ancient earthworks, which on many accounts are quite as remarkable as any others in North America, or perhaps in any part of the world.

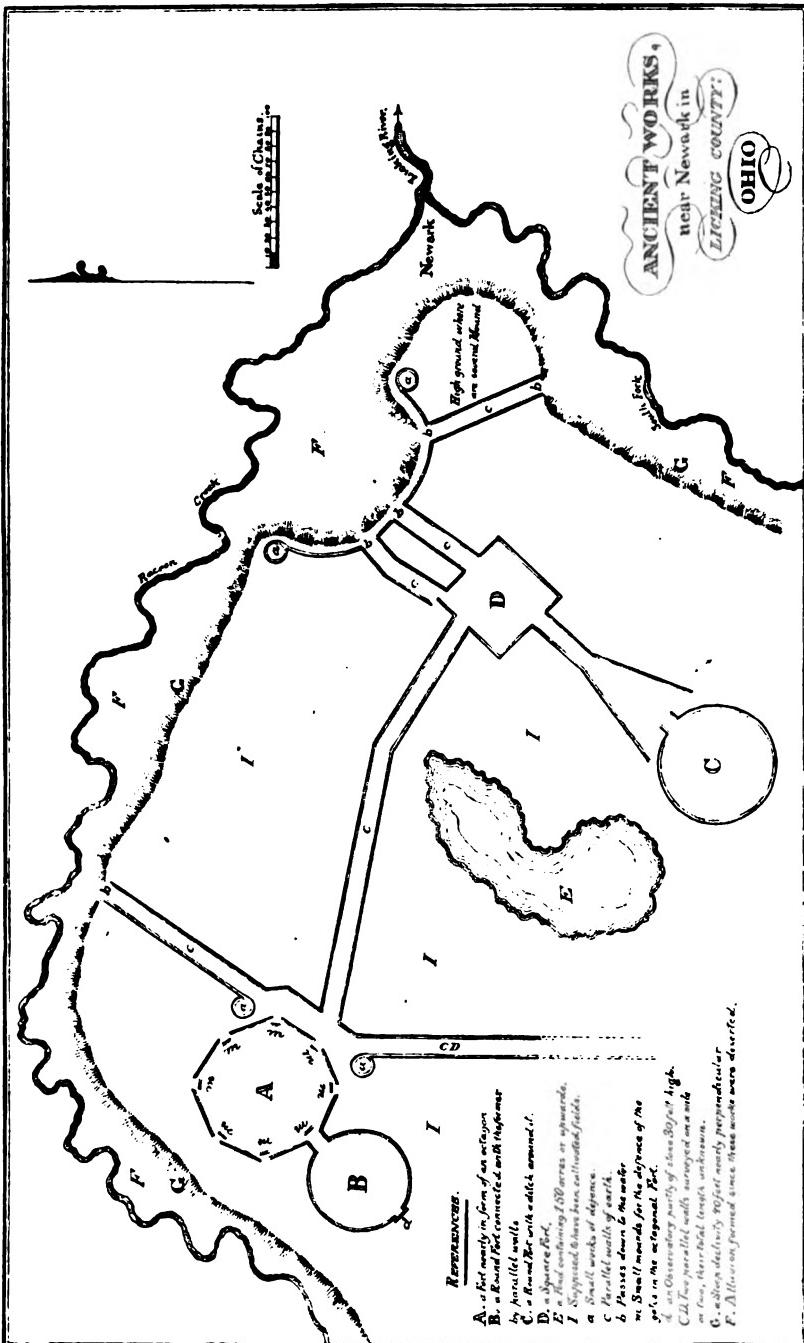
By reference to the scale on which they are projected, it will be seen that these works are of great extent [19].

A is a fort containing about forty acres, with its walls, which are generally, I should judge, about ten feet high. Leading into this fort are eight openings or gateways, about fifteen feet in width, in front of which is a small mound of earth, in height and thickness resembling the outer wall (see m). These small mounds are about four feet longer than the gateway is in width; otherwise they look as if the wall had been moved into the fort eight or ten feet. These small mounds of earth were probably intended for the defence of the gates opposite to which they are situated. The walls of this work consist of earth taken from the surface so carefully and uniformly that it cannot now be discovered from what point.* They are as nearly perpendicular as the earth could be made to lie.

B is a round fort, consisting of twenty-two acres, connected with A by two parallel walls of earth of about the same height, etc., as those of A. At d is an *observatory*, built partly of earth and partly of stone. It commanded a full view of a considerable part, if not all the plain in which these ancient works stand, and would do so now, were the thick growth of ancient forest trees, which clothe this tract, cleared away. Under this observatory was a passage, from appearances, and a secret one probably, to the water-course, which once ran near this spot, but has since moved farther off.

C is a circular fort, containing about twenty-six acres, having a wall around it, which was thrown out of a deep ditch *on the inner side of the wall*. This wall is now from twenty-five to thirty feet in height; and when I saw this work, the ditch was half-filled with water, especially on the side towards E. There are parallel walls of earth c, generally five or six rods apart, and four or five feet in height.

* They may have been made of the earth removed to make the pond.



D is a square fort containing twenty acres, whose walls are similar to those of A.

E is a pond, covering from one hundred and fifty to two hundred acres, which was a few years since entirely dry, so that a crop of Indian corn was raised where the water is now ten feet in depth and appears still to be rising. This pond sometimes reaches to the very walls of C and to the parallel walls towards its northern end.

F is the interval, or alluvion made by the Raccoon and South fork of Licking river, since they washed the foot of the hill at G. When these works were occupied, we have reason to believe that these streams washed the foot of this hill, and as one proof of it, passages down to the water have been made of easy ascent and descent at b.

G, an ancient bank of the creeks which have worn their channels considerably deeper than they were when they washed the foot of this hill. These works stand on a large plain, which was elevated forty or fifty feet above the interval F, and is almost perfectly flat, and as rich a piece of land as can be found in any country. The reader will see the *passes* where the authors of these works entered into their fields at IIIII, and which were probably cultivated.* The watch-towers, a, were placed at the ends of the parallel walls, on ground as elevated as could be found on this extended plain. They are surrounded by circular walls, now only four or five feet in height. It is easy to see the utility of these works placed at the several places where they stand.

C, D, two parallel walls, leading probably to other works, but not having been traced more than a mile or two, are not laid down even as far as they were surveyed.

The high ground near Newark appears to have been the place, and the only one which I saw, where the ancient occupants of these works buried their dead, and even these tumuli appeared to me to be small. Unless others are found in the vicinity, I should conclude that the original owners, though very numerous, did not reside here any great length of time. I should not be surprised if the parallel walls C, D, are found to extend from one work of defence to another, for the space of thirty miles, all the way across to the Hockhocking, or some point a few miles north of Lancaster.

Such walls having been discovered in different places, probably belonging to these works, for ten or twelve miles at least, leads me to suspect that the works on the Licking were erected by people who were connected with those who lived on the Hockhocking

* These "passes" do not appear, unless they were at the ends of the parallel walls, next A and C.

river, and that their road between the two settlements was between these two walls.*

The hearths, burnt charcoal, cinders, wood, ashes, etc., which were uniformly found in all similar places that are now cultivated, have not been discovered here, this plain being probably an uncultivated forest. I found here several arrow-heads, such as evidently belonged to the people who raised other similar works.

A few miles below Newark, on the south side of the Licking, are some of the most extraordinary holes dug in the earth, for number and depth, of any within my knowledge, which belonged to the people we are treating of. In popular language they are called 'wells,' but were not dug for the purpose of procuring water, either fresh or salt. There are at least a thousand of these wells. Many of them are more than twenty feet in depth."†

Report of John Hart, Captain in the First Regiment (of the United States), relative to the ancient fortifications discovered on the borders of the Muskingum, at a half a mile from the confluence of this river with the Ohio [20].

"For more clearness, I shall call the town No. 1, fortifications, No. 2, and pyramid, No. 3. The town is a square of two hundred and twenty toises, surrounded by a platform which is from six to ten feet in height and from twenty to forty in width. Three openings divide this platform into four nearly equal parts. Those which faced the river appeared to me to be a little larger. Nothing covered the four angles of this town; one of the openings of the west side served for the issue of a road, M, one hundred and twenty feet wide, which led to the lowlands of the river‡ by a gentle slope of sixty toises. This road is closed on two sides by a platform, O, which begins sixty feet from that of the town and rises in proportion as this passage descends, in such a manner as to preserve its level. The way of this road appears to have been made so as to decline on each side, and be accompanied by two drains, which perhaps served for the flowing off of the waters of the town.

Towards the northwest angle of this same town is seen an ele-

* If the people who made these walls lived when mastodons roamed through these regions they might have been of some use to protect travellers going from one settlement to another from these monsters, but I much doubt whether similar roads were ever constructed in any country, unless the great wall of China be considered as such.

† "Description of the Antiquities discovered in the State of Ohio and other Western States." By Caleb Atwater.

‡ Benjamin Franklin says the river has receded three hundred feet since this work was made.

PLAN

D'UN ANCIEN CAMP RETRANCHE^E
découvert sur les bords du Muskingham
et décrivé par John Hart Capitaine du 1^{er}
Régiment des Etats Unis.

Monticules...
Hors-places...
Excavations...
Tombeaux...



vation, B, of an oblong form, which is thirty-seven toises long, twenty-two wide, and six feet high; its surface is perfectly even. Four ramps or inclined plains, I, placed at the centre of the four sides, lead to it; they appear to correspond exactly to the openings of the platforms or walls of the town.

Not far from this wall, toward the northeast, is seen another elevation, G, twenty-five by twenty toises; but instead of four ramps it has but three—I, I, I. The place of the fourth, R, appears to have been hollowed. A little more to the north is another elevation, circular, L, accompanied by four small excavations, K, placed at equal distances. Towards the southeast part is seen another, H, the form of which is a parallelogram, and which is nine toises wide and eighteen long; it is much more deteriorated than the others. The most southern angle of the town is covered by a very peculiar work: it is a mound quite elevated, N, accompanied by two parapets, X, semi-circular. It is probable that the three other angles of the town were defended by some works like to this, which time may have destroyed.

The fortifications, No. 2, formed a whole nearly square, which, as the town, is surrounded by platforms whose openings are defended by mounds, S. Those of the openings, T, T, are double. Between these fortifications and the town are seen excavations, some circular elevations, Z, and some tombs, W. No. 3, the pyramid, B, is nearly circular; it is fifty feet in height, and three hundred and ninety in circumference; it is surrounded by a ditch five feet deep by fifteen wide, as also by an exterior parapet, A, which is seven hundred and fifty-nine in circuit. This enclosure has but one opening, R, and is preceded on the side of the Ohio by some advanced works, C, D.

There have been discovered many other mounds, excavations and platforms covered with bushes and trees whose ensemble escaped my view; it is what decided me not to trace them on the plan.

The trees which cover these ancient works are oaks from two to four feet in diameter, hickories, sugar-maples, ash, sycamore, acacias, plane-trees, pines, etc. The vegetable soil on which they grow appears to be as deep as that of the vicinity. The tombs are small elevations in which are found human bones. It appears that the bodies had been inhumed with much care and placed in the direction from east to west. There have been found in the breasts of some of them pieces of talc. The bones of some others have been calcined, or dried, to prolong their duration. There have also been discovered stones which bore the imprint of fire, as well as charcoal, arrows, and fragments of pottery.

Moreover they have not found iron nor anything that could cause a conjecture that these ancient people had known this metal. The uniformity, the regularity of these ramparts, their advantageous situation, their height, the largeness of these platforms, all attest that they have been raised by a nation numerous, powerful and considerably advanced in civilization. Dr. Cutler, a celebrated botanist, who has carefully examined the oaks fallen through old age, as well as those which are still in all their vigor, believes that these last ones are a second generation, which carries the time of the construction of these fortifications, perhaps, to a thousand years.

Judge of my surprise when on landing for the first time in the midst of these ancient and venerable forests the view of these prodigious works announced to me that at a very remote period these places, now so solitary, had been animated by the presence and the labors of a people numerous, industrious and warlike. The regularity of these fortifications, the enormous quantity of earth with which these ramparts and this pyramid have been formed, all these objects, although very striking, astonished me, however, much less than the entire disappearance of this ancient people and the silence of tradition.

It is probable that this part of the continent has been greatly populated, for, if the extent of these entrenchments are proportioned to the number of those who defended them, it was also to that of the assailants. If ever they have been attacked, I do not believe that the number of the besieged and the besiegers could have been less than ten thousand; and if one in ten were then soldiers, the circumjacent countries ought then to contain one hundred thousand inhabitants."

In the "Description of the Antiquities of the State of Ohio and other Western States," by Caleb Atwater, are accounts of the earthworks at Marietta, from which the following is taken:

"It will be seen that I have quoted largely from Drs. Cutler and Harris, not, however, without first ascertaining that their accounts were perfectly correct as to all the facts which they have stated.

The largest square, called the town, contains forty acres, encompassed by a wall of earth from six to ten feet high, and from twenty-five to thirty feet in breadth at the base.

On each side are three openings at equal distances. The entrances at the middle are the largest, particularly on the side next to the Muskingum. From *this* outlet is a covertway formed of two parallel walls of earth two hundred and thirty-one feet distant

from each other, measuring from centre to centre. The walls at the most elevated part on the inside are twenty-one feet high and forty-two broad at the base, but on the outside average only five feet in height. This forms a passage of about three hundred and sixty feet in length, leading by a gradual descent to the low grounds, where, at the base of its construction, it probably reached the river. Its walls commence sixty feet from the ramparts of the fort and increase in elevation as the way descends towards the river; the bottom is crowned in the centre, in the manner of a well-founded turnpike road.

At the northwest corner of the fort is an oblong, elevated square, one hundred and eighty-eight feet long, one hundred and thirty-two feet broad, and nine feet high, level on the summit and nearly perpendicular on the sides. At the centre of each of the sides a ramp of earth about six feet wide gradually ascends to the top.

Near the south wall is another elevated square one hundred and fifty feet by one hundred and twenty, and eight feet high, similar to the others, except that on the side next to the wall instead of a ramp there is a hollow way ten feet wide, leading twenty feet towards the centre, and then rising with a gentle slope to the top.

At the southeast corner is a third elevated square one hundred and eight by fifty-four feet, with ascents at the ends, but not so high nor so perfect as the others.

A little to the southwest of the centre of the fort is a circular mound about thirty feet in diameter and five feet high, near which are four small excavations at equal distances, and opposite each other.

At the southwest corner of the fort is a semicircular parapet crowned with a mound, which guards the opening in the wall.

Towards the southeast is a small fort containing twenty acres, with a gateway in the centre of each side and at each corner. These gateways are defended by circular mounds. On the outside of this smaller fort is a mound in form of a sugar-loaf; its base, a regular circle, is one hundred and fifteen feet in diameter; perpendicular height, thirty feet. It is surrounded by a ditch four feet deep and fifteen feet wide, and defended by a parapet four feet high, through which is a gateway towards the fort twenty feet wide."

Some additional particulars by Dr. S. P. Hildreth, of Marietta, date of June 8th, 1819:

"The principal excavation, or well, is as much as sixty feet in diameter at the surface, and when the settlement was first made it was at least twenty feet deep. It is, at present, twelve or fourteen

feet. It was originally of the kind formed in the most early days, when the water was brought up by hand in pitchers or other vessels, by steps formed in the sides of the well.

The pond, or reservoir, near the northwest corner of the large fort was about twenty-five feet diameter, and the sides raised above the level of the adjoining surface by an embankment of earth three or four feet high. It was nearly full at the first settlement of the town, and remained so until the last winter, at all seasons of the year. When the ground was cleared near the well a great many logs were rolled into it. These, with the annual deposit of leaves for ages, had filled the well nearly full, but still the water rose to the surface. Poles have been pushed down into the water and deposit of rotten vegetation to the depth of thirty feet. Last winter the person who owns the well undertook to drain it by cutting a ditch from the well into the small 'covertway,' and he has dug to the depth of about twelve feet and let the water off to that distance. He finds the sides of the reservoir project gradually towards the centre of the well in the form of an inverted cone. The bottom and sides, so far as he has examined them, are lined with a stratum of very fine ash-colored clay, about eight or ten inches in thickness, below which is the common soil of the place.

On the outside of the parapet, near the *oblong square*, I picked up a considerable number of fragments of ancient potter's ware. This ware is ornamented with lines, some of them quite curious and ingenious, on the outside. It is composed of clay and fine gravel and has a partial glazing on the inside. It seems to have been burnt. The fragments, on breaking them, look quite black, with brilliant particles appearing as you held them to the light. The ware which I have seen, found near the river, is composed of shells and clay, and not nearly so hard as that found on the plain. Several pieces of copper have been found in and near to the ancient works, at various times. One piece, from the description I had of it, was in the form of a cup with low sides, the bottom very thick and strong.

The places of ascent on the sides of the elevated squares are ten feet wide, instead of six, as stated by Mr. Harris."

Another of Dr. Hildreth's letters, dated July 19th, 1819 :

"In removing the earth which composed an ancient mound in one of the streets of Marietta, in the region of the plain, near the fortifications, several curious articles were discovered the latter part of June last. They appear to have been buried with the body of the person to whose memory the mound was erected.

Lying immediately over or on the forehead of the body were

found three large circular bosses, or ornaments for a sword-belt or buckler; they are composed of copper, overlaid with a thick plate of silver. Their fronts are slightly convex, with a depression like a cup, in the centre, and measure two inches and a quarter across the face of each. On the back side, opposite the depressed portion, is a copper rivet or nail, around which are two separate plates, by which they were fastened to the leather. Two small pieces of leather were found lying between the plates of one of the bosses; they resemble the skin of an old mummy, and seemed to have been preserved by the salts of the copper. The plates of copper are nearly reduced to an oxide, or rust. The silver looks quite black, but is not much corroded, and, on rubbing, it becomes quite brilliant. Two of these are yet entire; the third one is so much wasted that it dropped in pieces on removing it from the earth. Around the rivet of one of them is a small quantity of flax or hemp in a tolerable state of preservation. Near the side of the body was found a plate of silver which appears to have been the upper part of a sword scabbard; it is six inches in length and two inches in breadth, and weighs an ounce; it has no ornament or figures, but has three longitudinal ridges; it seems to have been fastened to the scabbard by three or four rivets, the holes of which yet remain in the silver.

Two or three broken pieces of a copper tube were also found, filled with iron-rust. These pieces, from their appearance, composed the lower end of the scabbard near the point of the sword. No signs of the sword itself were discovered except the appearance of the rust above mentioned.

Near the feet was found a piece of copper weighing three ounces. From its shape it appeared to have been used as a plumb or for an ornament, as near one of the ends is a circular crease or groove for tying a thread; it is round, and two inches and a half in length and an inch in diameter at the centre, and half an inch at each end. It is composed of small pieces of native copper pounded together, and in the cracks between the pieces are stuck several pieces of silver, one near the size of a half-dime. This copper ornament was covered with a coat of green rust, and is considerably corroded. A piece of red-ochre or paint, and a piece of iron ore, which has the appearance of having been partially vitrified, or melted, were also found. The ore is about the specific gravity of pure iron.

The body of the person here buried was laid on the surface of the earth, with his face upwards, and his feet towards the northeast, and head towards the southwest. From the appearance of

several pieces of charcoal and bits of partially burnt fossil coal and the black color of the earth, it would seem that the funeral obsequies had been celebrated by fire; a circle of thin, flat stones had been laid around and over the body. The circular covering is about eight feet in diameter, and the stones yet look black, as if stained by fire and smoke. This circle of stones appears to have been the nucleus on which the mound was formed, as immediately over them is heaped the common earth of the adjacent plain, composed of clay, sand and coarse gravel. This mound must originally have been about ten feet high and thirty feet in diameter at its base. At the time of opening it the height was six feet and the diameter between thirty and forty. It has every appearance of being as old as any in the neighborhood, and was, at the first settlement of Marietta, covered with large trees, the remains of whose roots were yet apparent in digging away the earth. It also seems to have been made for this single personage, as the remains of one skeleton only was discovered. The bones were much decayed, and many of them crumbled to dust on exposure to the air. From the length of some of them, it is supposed the person was about six feet in height. Nothing unusual was discovered in their form, except that those of the skull were uncommonly thick."

In another letter of the same year, of a later date, Dr. Hildreth says: "In addition to the articles found at Marietta, I have procured from a mound on the Little Muskingum, about four miles from Marietta, some pieces of copper, which appear to have been the front part of a helmet. It was, originally, about eight inches long and four broad, and has marks of having been attached to leather; it is much decayed, and is now quite a thin plate. A copper ornament, in imitation of those described as found at Marietta, was discovered with the plate, and appears to have been attached to the centre of it by a rivet, the hole for which remains both in the plate and ornament. At this place the remains of a skeleton were found. No part of it retained its form but a portion of the forehead and the skull, which lay under the plate of copper. These bones are deeply tinged with green, and appear to have been preserved by the salts of copper."

The mound in which these relics were found is about the magnitude of the one in Marietta, and has every appearance of being as ancient. It seems to be a well-established fact that the bodies of nearly all those buried in mounds were partially if not entirely consumed by fire before the mounds were built. This is made to appear by quantities of charcoal being found at the cen-

tre and base of the mounds, stones burnt and blackened, and marks of fire on the metallic substance buried with them. On no one of the articles yet found has been discovered any letters, characters, or hieroglyphics which would point to what nation or age these people belonged."

As the Marietta ancient earthworks were the most perfect and most magnificent of any north of Mexico, I thought their importance merited the attention I have given them.

The letter of the Rev. Dr. Doddridge, of Brooke County, Virginia, to Mr. Atwater contains the following in regard to the antiquities at Grave Creek:

" WILLIAMSBURG, Va., May 27th, 1819.

DEAR SIR: Grave Creek Flat is about eleven miles below Wheeling. It is about two miles square, consisting, the most part, of a second bottom, the most ancient alluvion; about the middle of it Little Grave Creek puts onto the Ohio, and Great Grave Creek at the lower end of the flat. Between these creeks stand the ancient works, at the distance of about a quarter of a mile from the Ohio.

The 'fortifications,' as they are called, are not remarkable ones, though a number of small mounds stand among them. In one of the tumuli, which was opened about twenty years since, sixty copper beads were found. Of these I procured ten. They were made of a coarse wire, which appeared to have been hammered out, and not drawn, and were cut off at unequal lengths. They were soldered together in an awkward manner, the centre of some of them uniting with the edges of others. They were incrusted with verdigris, but the inside of them was pure copper.

The 'Big Grave,' as it is called, stands about halfway between the two creeks, and about a fourth of a mile from the (Ohio) river. It is certainly one of the most august monuments of remote antiquity anywhere to be found. Its circumference, at the base, is three hundred yards; its diameter of course one hundred. Its altitude, from measurement, is ninety feet; and its diameter at the summit is forty-five feet. The centre at the summit appears to have sunk several feet, so as to form a kind of small amphitheatre. The rim, including this amphitheatre, is seven or eight feet in thickness. On the south side, in its edge, stands a large beech tree, whose bark is marked with the initials of a great number of visitants.

This lofty and venerable tumulus has been so far opened as to ascertain that it contains many thousands of human skeletons,

but no farther. The proprietor of the ground will not suffer its demolition in the smallest degree. I, for one, do him honor for his sacred regard for these works of antiquity.

A careful survey of the above-mentioned works would probably show that they were all connected, and formed but parts of a whole, laid out with taste."

From a work entitled "Virginia, its History and Antiquities," is taken the following: "Grave Creek was first settled in 1770 by Joseph Tomlinson, an emigrant from Maryland. In 1772 he discovered the mammoth mound at this place, and about this time several other families from Maryland emigrated here. During the succeeding years the inhabitants suffered considerably from the Indians, and erected forts for their security."

From Mr. Tomlinson's communication in the "American Pioneer" we derive the following facts: "The mammoth mound is sixty-nine feet high, and about nine hundred feet in circumference at its base. It is a frustum of a cone, and has a flat top about fifty feet in diameter. This flat, until lately, was slightly depressed, occasioned, it is supposed, by the falling in of two vaults below. A few years since a white oak, about seventy feet in height, stood on the summit of the mound, which appeared to have died of old age. On carefully cutting the trunk transversely, the number of concentric circles showed that it was about five hundred years old.

In 1838, Mr. Tomlinson commenced at the level of the surrounding ground, and ran in an excavation horizontally one hundred and eleven feet, when he came to a vault. This vault was twelve feet long, eight wide, and seven high. It was dry as any tight room. Along each side and the two ends stood upright timbers, which had supported transverse timbers forming the ceiling. Over the timbers had been placed unhewn stones, but the decay of the timbers occasioned the fall of the stones and the superincumbent earth, so as to nearly fill the vault. In this vault were found two skeletons, one of which was devoid of ornament; the other was surrounded by six hundred and fifty *ivory* beads, resembling button-moles, and an *ivory* ornament about six inches in length, which is one inch and five-eighths wide at the centre, half an inch wide at the ends, and on one side flat and on the other oval-shaped. A singular exudation of animal matter overhangs the roof of this vault.

Another excavation was commenced at the top of the mound, downwards. Midway between the top and the bottom, and over the vault above described, a second and similar vault was discov-

ered, and, like that, caved in by the falling of the ceiling, timbers and stones, etc. In the upper vault was found the singular hieroglyphic stone, hereafter described, seventeen hundred *ivory* beads, five hundred sea-shells, of the involute species, that were worn as beads, and five copper bracelets about the wrists of the skeleton. The shells and beads were about the neck and breast of the skeleton, and there were also about one hundred and fifty pieces of mica strewn over the body.

The mound is composed of the same kind of earth as that around it, being a fine loamy sand, but differs very much in color from that of the natural ground. After penetrating about eight feet with the first or horizontal excavation, blue spots began to appear in the earth of which the mound was composed. On close examination these spots were found to contain ashes and bits of burnt bones. These spots increased as they approached the centre; at the distance of one hundred and twenty feet within, the spots were so numerous and condensed as to give the earth a clouded appearance, and excited the admiration of all who saw it. Every part of the mound presents the same appearance except near the surface. The blue spots were probably occasioned by depositing the remains of the bodies consumed by fire.*

In addition to the relics in the mammoth mound, there has been a great number and variety of relics found in the neighborhood. Many of them were discovered with skeletons, which were nearly decayed. Mr. Tomlinson has some beads found about two miles from this great mound that are evidently a kind of porcelain, and very similar, if not identical, in substance with the artificial teeth set by dentists. He has also an image of stone, found, with other relics, about eight miles distant. It is in human shape, sitting in a cramped position, the face and eyes projecting upwards. The nose is what is called Roman. On the crown of the head is a knot in which the hair is concentrated and tied. The head and features particularly is a display of great workmanship and ingenuity. It is eleven inches in height, but if it were straight would be double that height. It is generally believed to have been an idol."

From the same book is the following:—

Mr. Henry R. Schoolcraft visited Grave Creek in August, 1843, and devoted several days to the examination of the antique works of art at that place. We were subsequently at Grave Creek, and

* May they not have been remains of victims sacrificed at the funeral of this entombed chief?

obtained an impression in wax of the hieroglyphical stone to which he alludes. An accurate engraving from this impression we insert in its proper place. The result of Mr. Schoolcraft's investigations is partially given below :

" I have devoted several days to the examination of the antiquities of this place. The most prominent object of curiosity is the great mound. It is but one of a series of mounds and other evidences of ancient occupation at this point of more than ordinary interest. I have visited and examined seven mounds situated within a short distance of each other. They occupy the summit level of a rich alluvial plain stretching on the left bank of the Ohio, between the junction of the Big and the Little Grave creeks with that stream. They appear to have been connected by low earthen entrenchments, of which plain traces are still visible on some parts of the commons. They include a well, stoned up in the usual manner, which is now filled with rubbish.

The summit of this plain is probably seventy-five feet above the present summit-level of the Ohio. It constitutes the second bench or rise of land above the water. It is on one of the most elevated parts of the summit that the great tumulus stands. The circumference of the base has been stated at a little less than nine hundred feet ; the height is sixty-nine feet.

The most interesting object of antiquarian inquiry is a small, flat stone, inscribed with antique alphabetic characters, which was disclosed on opening the mound. These characters are in the ancient rock-alphabet of sixteen right and acute-angled single strokes used by the Pelasgi and other early Mediterranean nations, and which is the parent of the modern Runic as well as the Bardic. It is now some four or five years since the completion of these excavations, so far as they have been made, and the discovery of this relic. Several copies of it soon got abroad, which differed from each other, and, as it was supposed, from the original. This conjecture is true. Neither the print published in the 'Cincinnati Gazette' in 1839, nor that in the 'American Pioneer' in 1843, is correct. I have terminated this uncertainty by taking copies by a scientific process, which does not leave the lines and figures to the uncertainty of a man's pencil.

I rode out yesterday three miles back, to the range of high hills which encompass this sub-valley, to see a rude tower of stone standing on an elevated point called Parr's Point, which commands a view of the whole plain, and which appears to have been constructed as a watch-tower or lookout, from which to descry an approaching enemy. It is much dilapidated. About six or seven

feet of the work is still entire. It is circular, and composed of rough stones laid without mortar or the mark of a hammer. A heavy mass of fallen walls lies around, covering an area of some forty feet in diameter. Two similar points of observation occupied by dilapidated towers are represented to exist, one at the prominent summit of the Ohio and Grave creek hills, and another on the promontory on the opposite side of the Ohio, in Belmont county, Ohio.

It is well known to all acquainted with the warlike habits of our Indians that they never evince the foresight to post a regular sentry, and these rude towers may be regarded as of cotemporary age with the interment of the inscription.

Several polished tubes of stone have been found in one of the lesser mounds, the use of which is not very apparent. One of these, now on my table, is twelve inches long, one and a fourth wide at one end and one and a-half at the other. It is made of a fine, compact, lead-blue stealite, mottled, and has been constructed by boring, in the manner of a gun-barrel. This boring is continued to within about three-eighths of an inch of the larger end, through which but a small aperture is left. If this small aperture be looked through, objects at a distance are more clearly seen. The degree of art evinced in its construction is far from rude. By inserting a wooden rod and valve, this tube would be converted into a powerful syringe."

CHAPTER XXIII.

Tumuli—The American Bottom—The Mounds of Cahokia—The Mounds of St. Louis—The Mummy of Tennessee—The Mounds of St. Charles—The Trinity Mounds.

In speaking of American antiquities, I prefer to quote the earliest writers in regard to these, for they had certain advantages over those who subsequently visited them, for by the settlement of the country considerable changes have been made in them, and some monuments that then existed have disappeared. Breckenridge wrote in 1811, and he thus speaks of the mounds of the American Bottom :

"To form a more correct idea of these, it will be necessary to give the reader some idea of the tract of country in which they are situated. The American Bottom is a tract of rich alluvium land

extending on the Mississippi from Kaskaskia to the Cahokia river, about eighty miles in length and five in breadth. Several handsome streams meander through it, the soil of the richest kind, and but little subject to the effects of the Mississippi floods. A number of lakes are interspersed through it, with high and fine banks. These abound in fish, and, in the autumn, are visited by millions of wild fowl. There is perhaps no spot (of the same area) in the western country capable of being more highly cultivated or of giving support to a more numerous population than this valley. If any vestige of ancient population were to be found, this would be the place to search for it. Accordingly this tract, as also the bank of the river on the western side, exhibits proofs of an immense population.* If the city of Philadelphia and its environs were deserted there would not be more numerous traces of human existence. The great number of mounds, and the astonishing quantity of human bones everywhere dug up or found on the surface of the ground, with a thousand other appearances, announce that this valley was, at one period, filled with habitations and villages. The whole face of the bluff or hill, which bounds it on the east, appears to have been a continued burial-ground.†

But the most remarkable appearances are two groups of mounds or pyramids, the one about ten miles above Cahokia, the other nearly the same distance below it, which in all exceed one hun-

* "The Saline, below St. Genevieve, cleared out some time ago, and deepened, was found to contain wagon-loads of earthenware. Some fragments bespeak vessels as large as a barrel, and proving that the Salines had been worked before they were known to the whites." Breckenridge's note.

I may add that similar discoveries have been made on the Red river of Kentucky and on the Saline river of Illinois.—B. S.

† Yet in June, 1844, a great flood took place in the Mississippi. About the 8th or 10th the river commenced to rise rapidly. By the 16th the curbstones of Front Street, St. Louis, were under water. Illinois and Brooklyn were nearly submerged, the occupants of the houses being driven to the upper stories. The American Bottom was a turbid sea. The town of Naples was inundated, boats plying in the streets. The river reached its greatest height at St. Louis on the 24th of June, when it was seven feet seven inches above the city directrix. The water in its abatement did not reach the city directrix until the 14th of July. The rise of 1844 reached a higher elevation than any previous flood of the Mississippi at this point. The great flood of 1785 was surpassed, as were also the floods of 1811 and 1826. (L. N. Reavis.)

I was at St. Louis at the height of the flood of 1844, when steamboats made pleasure excursions over the American Bottom, and yet this bottom was anciently densely populated (probably more than a thousand years before); and so was Egypt thousands of years before that date, and yet annually flooded by the Nile.
—B. S.

dred and fifty, of various sizes. The western side also contains a considerable number.

I examined with great care the mounds near St. Louis, and, hearing of others of a more remarkable character on the eastern side of the river, I took my rifle and crossed over, intending to pass a day or two among them, and was highly delighted with what I saw. They were situated in a vast alluvial plain about six miles in width, stretching to the river-hills; and the first were about two miles from the Mississippi, and then continued at intervals, in a diagonal direction, until I reached the principal mound and group near the margin of a narrow but deep stream which traverses the immense body of fertile land usually called the American Bottom, and not less than eighty or a hundred miles in length. I was seized with astonishment as I ascended the large mound.

At the time of my first visit there was no one living within many miles of the place, but in a second visit, the year following, I found a colony of the monks of La Trappe established in the midst of them, their dwellings occupying a smaller mound, a hundred yards west of the great mound of Cahokia.*

A more minute description of those above Cahokia, which I visited in the fall (November) of 1811, will give a tolerable idea of them all.

I crossed the Mississippi at St. Louis, and after passing through the wood which borders the river, about half a mile in width, entered an extensive open plain. In fifteen minutes I found myself in the midst of a group of mounds, mostly of circular shape, and at a distance resembling enormous haystacks scattered through a meadow. One of the largest, which I ascended, was about two hundred paces in circumference at the base, the form nearly square, though it had evidently undergone considerable alteration from the washing of the rains. The top was level, with an area sufficient to contain several hundred men.

The prospect from this mound is very beautiful, looking towards the bluffs, which are dimly seen at the distance of six or eight miles. The bottom at this place being very wide, I had a level plain before me, varied by *islets* of wood and a few solitary trees; to the right the prairie is bounded by the horizon; to the left the curve of the Cahokia may be distinguished by the margin of wood upon its banks and crossing the valley diagonally south-south-west. Around me I counted forty-five mounds or pyramids, be-

* "Views of Louisiana" and "Recollections of the West," by H. M. Breck-enridge.

sides a great number of small artificial elevations. These mounds form something more than a semicircle, about a mile in extent, the open space on the river.

Pursuing my walk along the banks of the Cahokia, I passed eight others, in the distance of three miles, before I arrived at the largest assemblage. When I reached the foot of the principal mound, I was struck with a degree of astonishment, not unlike that which is experienced in contemplating the Egyptian Pyramids. What a stupendous pile of earth! To heap up such a mass must have required years and the labor of thousands. It stands immediately on the bank of the Cahokia, and, on the side next it, is covered with lofty trees. Were it not for the regularity and design which it manifests, the circumstance of its being in alluvial ground, and other mounds scattered around it, we could scarcely believe it the work of human hands. The shape is that of a parallelogram standing from north to south; on the south side there is a broad apron or step, about half way down, and from this another projection into the plain, about fifteen feet wide, which was probably intended as an ascent to the mound. By stepping around the base, I computed the circumference to be at least eight hundred yards, and the height of the mound about ninety feet. The step or apron has been used as a kitchen-garden by the monks of La Trappe settled near this, and the top is sown with wheat. Nearly west there is another of a smaller size, and forty others scattered through the plain. Two are also seen on the bluff, at the distance of three miles. Several of these mounds are almost conical. As the sward had been burnt, the earth was perfectly naked, and I could trace with ease any unevenness of surface, so as to discover whether it was artificial or accidental. I everywhere observed a great number of small elevations of earth to the height of a few feet, at regular distances from each other, and which appeared to observe some order. Near them I also observed pieces of flint and fragments of earthen vessels. I concluded that a very populous town had once existed here, similar to those of Mexico described by the first conquerors. The mounds were sites of temples, or monuments to the great men. It is evident that this could never have been the work of thinly-scattered tribes.

Hunter and Dunbar describe a mound at the junction of the Catahoula, Washita and Tensas rivers very similar in shape to the large one at Cahokia. I saw it last summer.* It has a step or apron, and is surrounded by a group of ten or twelve other

* The copyright of "Views of Louisiana" is dated 1813.

mounds of a smaller size. In the vicinity of New Madrid there are a number; one, on the bank of a lake, is at least four hundred yards in circumference, and surrounded by a ditch at least ten feet wide, and at present five feet deep; it is about forty feet in height and level on the top. I have frequently examined the mounds at St. Louis; they are situated on the second bank, just above the town, and disposed in a singular manner; there are nine in all, and form three sides of a parallelogram, the open side towards the country being protected, however, by three smaller mounds placed in a circular manner. The space enclosed is about four hundred yards in length, and two hundred in breadth. About six hundred yards above there is a single mound with a broad stage on the river side; it is thirty feet in height, and one hundred and fifty in length. The top is a mere ridge of five or six feet wide. Below the first mounds there is a curious work, called the Falling Garden. Advantage is taken of the second bank, nearly fifty feet in height at this place, and three regular stages or steps are formed by earth brought from a distance. This work is much admired—it suggests the idea of a place of assembly for the purpose of counseling on public occasions."

Although similar sentiments have been herein expressed before, yet the opinion of such a man as H. M. Breckinridge should give additional force to them, and therefore his reflections are here given as expressed by him in his "Views of Louisiana." He says:—"In tracing the origin of institutions or inventions amongst men, we are apt to forget that nations, however diversified by manners and language, are yet of the same species, and that the same institutions may originate among twenty different people. Adair takes great pains to prove a similarity of customs between the American tribes and the Jews. Lapiteau shows the existence of a still greater number common to the Greeks and Romans. The result to the philosophic mind is no more than this, that the American tribes belong to the human race, and that men, without any intercourse with each other, will, in innumerable instances, fall upon the same mode of acting. The wonder would be that they should not show a resemblance. We find these mounds in every part of the globe. In the north of Europe and in Great Britain they are numerous, and much resemble ours, but less considerable. The pyramids of Egypt are perhaps the oldest monuments of human labor in that country, so favorable for the production of a numerous population. The pyramids of Mexico, which are but little known, and yet scarcely less considerable, like those of Egypt, have their origin hid in the night of

oblivion. Humboldt is of opinion that 'these edifices must be classed with the pyramidal monuments of Asia, of which traces were found even in Arcadia, for the conical mausoleum of Calistus was a true tumulus, covered with fruit trees, and served as a base to a small temple consecrated to Diana.' The great altar of Jupiter at Olympus was nothing more than a huge mound of earth, with stone steps to ascend. Humboldt remarks with astonishment the similarity of the Asiatic and Egyptian pyramids to those of Mexico. The similarity of those which he describes* to the mounds or pyramids on the Mississippi is still more striking, but not a matter of so much wonder. The only difference is that a few of the Mexican pyramids are larger, and some appear to have been faced with stone or brick.

Like those of Mexico, wherever there has been a considerable town we find two large pyramids, supposed to represent the sun and the moon, and a number of smaller ones to represent the stars. There is very little doubt but that they originated with the same people, for they may be considered as existing in the same country.

A curious discovery made a few years ago in the State of Tennessee proves beyond doubt that at some remote period the valley of the Mississippi had been inhabited by a people much more civilized than those first known to us. Two human bodies were found in a copperas cave in a surprising state of preservation. They were first wrapped up in a kind of blanket, supposed to have been manufactured of the lint of nettles, afterwards with dressed skins, and then a mat of nearly sixty yards in length. They were clad in a beautiful cloth, interwoven with feathers, such as was manufactured by the Mexicans. They had been here perhaps for centuries, and certainly were of a different race from the modern Indians."[†]

Timothy Flint, who saw one of these mummies, thus speaks of it in his "Recollections : " "The two bodies that were found in the vast limestone cave in Tennessee, one of which I saw at Lexington, were neither of them more than four feet in height. It seemed to me that they must have been nearly the height of the living person. The teeth and nails did not seem to indicate the shrinking of the flesh from them in the desiccating process by which they were preserved. The teeth were separated by consid-

* Mexican Teocallis. In the eighty-four years that have elapsed since Breckenridge wrote the above, great researches and discoveries have been made in Egypt.

† Breckenridge's "Views of Louisiana," p. 190.

erable intervals, and were small, white and sharp. The hair seemed to have been sandy, or inclined to yellow.* It is well known that nothing is so uniform in the present Indian as his lank, black hair. From the pains taken to preserve the bodies, and the great labor of making the funeral robes in which they were folded, they must have been of the 'blood royal' or persons of great consideration in their day. The person that I saw had evidently died by a blow on the skull. The blood had coagulated there into a mass of texture and color sufficiently marked to show that it had been blood. The envelope of the body was double. Two splendid blankets, completely woven with the most beautiful feathers of the wild turkey, arranged in regular stripes and compartments, encircled it. The cloth on which these feathers were woven was a kind of linen of neat texture, of the same kind with that which is now woven from the fibre of the nettle. The body was evidently that of a female of middle age, and I should suppose that her majesty weighed, when I saw her, six or eight pounds."†

" You will expect me," says Flint, " to say something of the lonely records of the former races that inhabited this country. That there has formerly been a much more numerous population than exists here at present, I am fully impressed from the result of my own personal observation. From the highest points of the Ohio to where I am now writing,‡ and far up the Upper Mississippi and the Missouri, the same country is explored and peopled, and the more its surface is penetrated not only are there more mounds brought to view, but more incontestable marks of a numerous population. Wells artificially walled, different structures of convenience or defence, have been found in such numbers as no longer to excite curiosity. Ornaments of silver and of copper, pottery, of which I have seen numberless specimens in all these waters, not to mention the mounds themselves, and the still more tangible evidences of human bodies found in a state of preservation, and of sepulchres full of bones, are unquestionable demonstrations that this country was once possessed of a numerous population. Some of the mounds, such, for example, as those between the two Miamis, those near the Cahokia, and those far down the Mississippi in the vicinity of St. Francisville, Louisiana, must have been works of great labor. Whatever may have

* In "Peruvian Antiquities," by Rivero & Tschudi, is this of a Peruvian mummy : "The hair is always perfectly preserved, that of the women artificially braided, but the black pigment or coloring matter had lost more or less of its primitive color, and had become reddish."

† "Flint's Recollections."

‡ St. Charles, Mo.

been their former objects and uses, they all exhibited indication of art. All that I have seen were in regular forms, generally cones or parallelograms. If it be remarked that the rude monuments of this kind, those of the Mexican Indians even, are structures of stone, and that these are all of earth, I can only say that these memorials of former toil and existence are, as far as my observation has extended, all in regions destitute of stones.

You have been informed that I cultivated a small farm on that beautiful prairie below St. Charles, called 'The Mamelle' or Point Prairie. In my enclosure, and directly back of my house, were two conical mounds of considerable elevation. A hundred paces in front of them was a high bench, marking the shore of the 'Marais Croche,' an extensive marsh, and evidently the former bed of the Missouri. In digging a ditch on the margin of this bench, at the depth of four feet, we discovered great quantities of broken pottery belonging to vessels of all sizes and characters. Some must have been of a size to contain four gallons. I have walked on these mounds. I have surveyed their form, have ascertained that they are full of human bones.

We have prairies which have struck me as among the sublimest prospects of nature. In the most pleasing position of these prairies we have our Indian mounds which proudly rise above the plain. At first the eye mistakes them for hills, but when it catches the regularity of these breastworks and ditches it discovers at once that they are the labors of art and of men. When the evidences of the senses convince us that human bones moulder in these masses, when you dig about them and bring to light their domestic utensils and are compelled to believe that the busy tide of life once flowed here, when you see at once that these races were of a very different character from the present generation, you begin to inquire if any tradition, if any, the faintest, records can throw any light upon these habitations of men of another age. Is there no scope beside these mounds for imagination, and for contemplation of the past? The men, their joys, their sorrows, their bones, are all buried together; but the grand features of nature remain. There is the beautiful prairie over which they 'strutted through life's poor play.' The forests, the hills, the mounds lift their heads in unalterable repose, and furnish the same sources of contemplation to us that they did to those generations that have passed away.

It is true we have little reason to suppose that they were the guilty dens of petty tyrants, who let loose their half-savage vassals to burn, plunder, enslave, and despoil an adjoining den. There are

no remains of the vast and useless monasteries, where ignorant and lazy monks dreamed over their lusts or meditated their vile plans of acquisition and imposture. Here must have been a race of men on these charming plains that had every call from the scenes that surrounded them to contented existence and tranquil meditation. Unfortunately, as men view things, they must have been innocent and peaceful—they probably were, for had they been reared amidst wars and quarrels, like the present Indians, they would doubtless have maintained their ground, and their posterity would have remained to this day. Beside them moulder the huge bones of their cotemporary beasts, which must have been of thrice the size of the elephant. I cannot judge of the recollections excited by castles and towers that I have not seen, but I have seen all of grandeur which our cities can display. I have seen, too, these lonely tombs of the desert—seen them rise from these boundless and unpeopled plains. My imagination had been filled, and my heart has been full. The nothingness of the brief dream of human life has forced itself upon my mind. The unknown race to which these bones belonged had, I doubt not, as many projects of ambition and hoped as sanguinely to have their names survive as the great of the present day.”*

Mr. Dunbar and Dr. Hunter and party were employed by the government of the United States to make a survey of and explore the country traversed by the Washita River. They left St. Catharine's Landing, on the Mississippi, Tuesday, 16th of October, 1804, and on their return Mr. Dunbar reached his home, about twelve miles from Natchez, on the 20th of December, 1804, and Dr. Hunter and party, St. Catharine's Landing the morning of January 31, 1805.

The following is from a sketch of their report, and relates to the mounds at Trinity, where the Catahoula, Washita, and Bayou Tensas unite their waters and form Black River, which, in many places, does not exceed eighty yards in width :

“On arriving at the mouth of the Catahoula they landed to obtain information from a Frenchman settled there. His house stands on an Indian mound, with several others in view. There is also a species of rampart surrounding this place, and one very elevated mound.

There is an embankment running from the Catahoula to Black River (including about two hundred acres of rich land), at present about ten feet high and ten feet broad. This surrounds four large mounds of earth, at the distance of a *bow-shot* from each other, each of which may be twenty feet high, one hundred feet broad, and

* Flint's “Recollections,” etc.

three hundred feet long at the top, besides a stupendous turret on the back part of the whole, or farthest from the water, whose base covers about an acre of ground, rising by two steps or stories, tapering in the ascent, the whole surmounted with a great cone, with its top cut off. This tower of earth, *on admeasurement*, was found to be eighty feet perpendicular."

CHAPTER XXIV.

Bartram's Account of the Cherokees, Muscogulges, Creeks, and Choctaws.

WILLIAM BARTRAM, the American botanist, spent four or five years, from 1773, in travelling through what is now Florida, Georgia, Alabama, Mississippi, leaving Charleston, South Carolina, in April, 1773, and reaching Point Coupee, on the Mississippi River, in 1777, even visiting the part of the Cherokee country in Tennessee, and on his return from his travels reached his father's house, on the banks of the Schuylkill, within four miles of Philadelphia, January, 1778. Thus Bartram had ample time and opportunities to study the Indians of the territory between the Savannah and the Mississippi rivers south of Tennessee, and he thus describes them :

"The males of the Cherokees, Muscogulges,* Seminoles, Chickasaws, Choctaws, and confederate tribes of the Creeks, are tall, erect, and moderately robust ; their limbs well shaped, so as generally to form a perfect human figure ; their features regular, and countenance open, dignified, and placid, yet the forehead and brow so formed as to strike you instantly with heroism and bravery ; the eye, though rather small, yet active and full of fire ; the iris always black, and the nose commonly inclined to the aquiline.

Their countenance and actions exhibit an air of magnanimity, superiority, and independence.

Their complexion of a reddish-brown or copper-color ; their hair long, lank, coarse, and black as a raven, and reflecting the like lustre at different exposures to the light.

The women of the Cherokees are tall, slender, erect, and of a delicate frame, their features formed with perfect symmetry, their countenance cheerful and friendly, and they move with becoming grace and dignity.

* Muscogulge is the Indian name of Creeks, the word Creeks being an English name.

The Muscogulge women, though remarkably short of stature, are well formed, their visage round, features regular and beautiful; the brow high and arched; the eye large, black, languishing, expressive of modesty, diffidence, and bashfulness; they are loving and affectionate. They are, I believe, the smallest race of women yet known, seldom above five feet high, and I believe the greater number never arrive at that stature; their hands and feet not larger than those of Europeans of nine or ten years of age; yet the men are of gigantic stature, a full size larger than Europeans, many of them above six feet and few under that or five feet eight or ten inches; their complexion much darker than that of any of the tribes to the north of them that I have seen. This description will, I believe, comprehend the Muscogulges, their confederates, the Choctaws, and, I believe, the Chickasaws (though I have never seen their women), excepting, however, some bands of the Seminoles, Uches, and Savannucas, who are rather taller and slenderer, and their complexion brighter.

The Cherokees are yet taller and more robust than the Muscogulges, and by far the largest race of men I have seen,* their complexion brighter, and somewhat of an olive cast, especially the adults, and many of their women are nearly as fair and blooming as European women.

The Cherokees, in their disposition and manner are grave and steady, dignified and circumspect in their deportment; rather slow and reserved in conversation, yet frank, cheerful, and humane; tenacious of the liberties and natural rights of man; secret, deliberate, and determined in their councils; honest, just, and liberal, and ready always to sacrifice every pleasure and gratification, even their blood, and life itself, to defend their territory and maintain their rights. They do homage to the Muscogulges with reluctance, and are impatient under their galling yoke.

The national character of the Muscogulges, when considered in a political view, exhibits a portraiture of a great or illustrious hero. A proud, haughty, and arrogant race of men, they are brave and valiant in war, ambitious of conquest, restless and perpetually exercising their arms, yet magnanimous and merciful to a vanquished enemy, when he submits and seeks their friendship and protection; always uniting the vanquished tribes in confederacy with them, when they immediately enjoy, unexceptionally, every

* "There are, however, some exceptions to this general observation, as I have myself witnessed. Their present grand chief (the Little Carpenter), *Attakul-kulla*, is a man of remarkably small stature, slender, and of a delicate frame, the only instance I saw in the nation; but he is a man of superior abilities."

right of free citizens, and are from that moment united in one common bond of brotherhood.* They were never known to exterminate a tribe, except the Yamasees, who would never submit on any terms, but fought it out to the last, only about forty or fifty of them escaping at the last decisive battle, who threw themselves under the protection of the Spaniards at St. Augustine.

If we consider them with respect to their private character, or in a moral view, they must, I think, claim our approbation, if we divest ourselves of prejudice and think freely. As moral men they certainly stand in no need of European civilization.

They are just, honest, liberal and hospitable; considerate, loving and affectionate to their wives and relations; fond of their children, industrious, frugal, temperate and persevering, charitable and forbearing. I have been weeks and months amongst them, and in their towns, and never observed the least sign of contention or wrangling; never saw an instance of an Indian beating his wife, or even reproofing her in anger. In this case they stand as examples of reproof to the most civilized nations, as not being defective in justice, gratitude and good understanding, for indeed their wives merit their esteem and the most gentle treatment, they being industrious, frugal, careful, loving and affectionate.

The Muscogulges are more volatile, sprightly and talkative than their northern neighbors, the Cherokees, and though far more distant from the white settlement than any nation east of the Mississippi, appear evidently to have made greater advancement towards the refinements of true civilization.

It is astonishing, though a fact, as well as a sharp reproof to the white people, if they will allow themselves liberty to reflect and form a just estimate, and I must own elevates these people to the first rank among mankind, that they have been able to resist the continual efforts of the complicated host of vices that have for ages overrun the nations of the Old World, and contaminated their morals; and yet more so since such vast armies of these evil spirits have invaded this continent and closely invested them on all sides.

The Muscogulges with their confederates, the Choctaws, Chickasaws, and perhaps the Cherokees, eminently deserve the encomiums of all nations for their wisdom and virtue in resisting, and even in repelling the greatest, and even the common enemy of mankind, at least of most of the European nations; I mean spirit-

* The Peruvians did almost the same, but they assigned the vanquished a different territory from that they had occupied previously to being vanquished, thus destroying local ties, to attach them to the general welfare.

uous liquors. The first and most cogent article in all their treaties with the white people is ‘that there shall not be any kind of spirituous liquors sold or brought into their towns.’

The king, although he is acknowledged to be the first and greatest man in the town or tribe, and honored with every due and rational mark of love and esteem, and, when presiding in council, with a humility and homage as reverent as that paid to the most despotic monarch in Europe or the East, and when absent his seat is not filled by any other person, yet he is not dreaded ; and when not of the council, he associates with the people as a common man, converses with them, and they with him, in perfect ease and familiarity.

The Mico, or king, though elective, yet his advancement to that supreme dignity must be understood in a very different light from the elective monarchs of the Old World, where the progress to magistracy is generally effected by schism and the influence of friends gained by craft, bribery, and often by more violent methods, and after the throne is obtained by measures little better than usurpation, he must be protected and supported there by the same base means that carried him thither.

But here behold the majesty of the Muscogulge Mico ! He does not either publicly or privately beg of the people to place him in a situation to command or rule over them, and his appearance is altogether mysterious ; as a beneficent deity he rises king over them as the sun rises to bless the earth !

No one will tell you how or when he became king, but he is universally acknowledged to be the greatest person among them, and he is loved, esteemed and reverenced, although he associates, eats, drinks and dances with them in common as other men ; his dress is the same, and a stranger could not distinguish the king’s habitation from that of any other citizen by any sort of splendor or magnificence, yet he perceives they act as though their Mico beheld them, himself invisible. In a word, their Mico seems to them the representative of Providence, or the Great Spirit, whom they acknowledge to preside over and influence their councils and public proceedings. He personally presides daily in their councils, either at the rotunda or the public square, and even here his voice is regarded no more than that of any other chief or senator, no farther than his advice as being that of the best and wisest man of the tribe, and not by virtue of regal prerogative.

The most active part of the Mico is in the civil government of the town or tribe ; here he has the power and prerogative of calling a council to deliberate on peace or war, or all public concerns,

as inquiring into and deciding upon complaints and differences, but he has not the least shadow of exclusive executive power. He is complimented with the first visits of strangers, giving audience to ambassadors with presents, and he has also the disposal of the public granary.

The next man in order of dignity and power is the great war chief; he represents and exercises the dignity of the Mico, in his absence; in the council his voice is of the greatest weight in military affairs; his power and authority are entirely independent of the Mico, though when a Mico goes on an expedition he heads the army, and is there the war chief. There are many of these war chiefs in a town or tribe who are captains or leaders of military parties; they are elderly men who in their youthful days have distinguished themselves in war by their valor, subtlety and intrepidity, and these veteran chiefs, in a great degree, constitute their lively, dignified and venerable senate.

There is in every town or tribe a high priest, besides several juniors or graduates, but the ancient high priest or seer presides in spiritual affairs, and is a person of consequence; he maintains and exercises great influence in the State, particularly in military affairs; the senate never determines an expedition against their enemies without his counsel and assistance. These people believe that their seer has communion with powerful invisible spirits, who, they believe, have a share in the rule and government of human affairs, as well as the elements; that he can predict the result of an expedition; and his influence is so great that they have been known frequently to stop and turn back an army when within a day's journey of the enemy, after a march of several hundred miles.* They foretell rain or drouth, and pretend to bring rain at pleasure, cure diseases and exercise witchcraft, invoke or expel spirits, and even assume power of directing thunder and lightning.

These Indians are by no means idolators, unless their puffing the tobacco-smoke towards the sun and rejoicing at the appearance of the new moon may be termed so. So far from idolatry are they that they have no images among them,† nor any religious rite or ceremony that I could perceive, but adore the Great Spirit with the most profound and respectful homage. They believe in a future state where the spirit exists.

* A case of this kind happened in an expedition in which a detachment of Laudonnier's men accompanied a Floridian army in 1564.

† Then the images found in the great mound near Cartersville, in the State of Georgia, must have been idols of some other race.

The men shave their heads, leaving only a narrow crest or comb (like a chicken's) about two inches broad, and about the same height. Their ears are lacerated, separating the border or cartilaginous limb, which is bound round very close and tight until healed (in which they wear ornaments).

They have large silver crescents, or gorgets, which being suspended from the neck lie upon the breast, and the arms are ornamented with silver bands, or bracelets, and silver and gold chains, and a collar invests the neck. The head, neck and breast are painted with vermillion, and some of the warriors have the skin of the breast and muscular parts of the body very curiously inscribed or adorned with hieroglyphics, scrolls, flowers, figures of animals, crescents, and the sun in the centre of the breast. This is performed by pricking the skin and rubbing in a bluish tint.

The junior priests or students constantly wear the mantle or robe, which is white, and they have a great owl skin cased and stuffed very ingeniously, so well executed as almost to represent the living bird, having large sparkling glass beads or buttons fixed in the head for eyes. This ensign of wisdom and divination they wear sometimes as a crest on the top of the head; at other times the image sits on the arm, or is borne in the hand. These bachelors are also distinguished from the other people by their taciturnity, grave and solemn countenances, dignified step, and singing to themselves songs and hymns in a low, sweet voice, as they stroll about the town.*

They have feasts or festivals for almost every month in the year. The *busk*, or feast of first fruits, is their principal festival; *this seems to end the last and begin the new year*. It commences in August, when their new crops of corn are arrived at perfect maturity, and every town celebrates the *busk* separately, when their own harvest is ready. If they have any religious rite or ceremony, this festival is its most solemn celebration. When a town celebrates the *busk*, having previously provided themselves with new clothes, new pots, new pans, and other household utensils and furniture, they collect all their worn-out clothes and other despicable things, sweep and cleanse their houses, squares, and the whole town of their filth, which, with all the remaining grain and other old provisions, they cast together in one common heap, and consume it with fire. After having taken medicine, and fasted for three days, all the fire in the town is extinguished. During this fast they abstain from the gratification of every appetite and

* It is remarkable, the adoption of this emblem of wisdom by the Trojans, Greeks, and Muscogulges.

passion whatever. A general amnesty is proclaimed, all malefactors may return to their town, and they are absolved from their crimes, which are now forgotten, and they restored to favor. On the fourth morning the high-priest, by rubbing dry wood together, produces new fire in the public square, from whence every habitation in the town is supplied with the new and pure flame. Then the women go forth to the harvest-field and bring from thence new corn and fruits, which, being prepared in various dishes, and drink withal, is brought with solemnity to the square, where the people are assembled, apparelled in their new clothes and decorations. The men, having regaled themselves, the remainder is carried off and distributed among the families of the town. The women and children solace themselves in their separate families, and in the evening repair to the public square, where they dance, sing, and rejoice during the whole night, observing a proper and exemplary decorum. This continues three days, and the four following days they receive visits, and rejoice with their friends from neighboring towns who have purified and prepared themselves.*

The Moscogulges allow of polygamy in the utmost latitude. Adultery is always punished with cropping, which is the only corporeal punishment amongst them; murder, by death or outlawry; fornication, theft, and less crimes, by infamy, which produces such repeated marks and reflections of ridicule and contempt, that it generally ends in a voluntary banishment.†

The Moscogulges bury their dead in the earth. They dig a four-square deep pit under the cabin or couch which the deceased lay on, in his house, lining the grave with cypress bark, where they place the corpse in a sitting posture, as if it were alive; depositing with him his gun, tomahawk, pipe, and such other matters as he had the greatest value for in his lifetime. His eldest wife, or the queen-dowager, has the second choice of his possessions, and the remaining effects are divided among his other wives and children.

The Choctaws are called by the traders flats or flat-heads. All the males have the fore and hind part of their skulls artificially flattened, or compressed, by which means they have high and lofty foreheads, sloping backwards. These men are not so neat in

* This festival, in many respects, resembles that of the Natchez, and that which the Mexicans celebrated every fifty-two years, on the last night of their century. There are so many resemblances between the Indians of Mexico and those north of that state that they appear to indicate a common origin for the American Indians.

† And in this respect of sensibility to shame and contempt incurred by crime they show themselves superior to some more civilized nations.

the trim of their heads as the Muscogulges are, and they are remarkably slovenly and negligent in every part of their dress, but otherwise they are said to be ingenious, sensible and virtuous men, bold and intrepid, yet quiet and peaceable, and are acknowledged by the Greeks to be brave.

They are supposed to be most ingenious and industrious husbandmen, having large plantations where they employ much of their time in agricultural improvements, by which means their territory is more generally cultivated and better inhabited than any other Indian republic we know of. The number of their inhabitants is said greatly to exceed the whole Muscogulge confederacy, although their territories are not a fourth part as extensive.

The Muscogulge language is spoken throughout the confederacy (although consisting of many nations having a speech peculiar to themselves), as also by their friends and allies, the Natchez. The Chickasaw and Choctaw, the Muscogulges say, are dialects of theirs.

This language is very agreeable to the ear—courteous, gentle, and musical. The letter *R* is not sounded in one word of their language. The men's speech is strong and sonorous, but not harsh, and in no instance guttural, and I believe the letter *R* is not used to express any word in any language of the confederacy. The Cherokee tongue, on the contrary, is very loud, somewhat rough, and very sonorous, sounding the letter *R* very frequently, yet very agreeable and pleasant to the ear."

CHAPTER XXV.

Indian Burials and Idols—Mounds, Terraces, and Avenues.

PRESIDENT JEFFERSON, in his notes on the State of Virginia, in speaking of "barrows," says: "Many are to be found all over this country. They are of different sizes, some of them constructed of earth and some of loose stones. Some have thought they covered the bones of those who have fallen in battles fought on the spot of interment. Some ascribed them to the custom, said to prevail among the Indians, of collecting, at certain periods, the bones of all their dead, wheresoever deposited at the time of their death. Others again supposed them the general sepulchres of towns conjectured to have been in or near these grounds; and this opinion was supported by the quality of the lands in which they

are found (those constructed of earth being generally of the softest and most fertile meadow-grounds on river-sides), and by a tradition, said to be handed down from the aboriginal inhabitants, that when they settled a town the first person who died was placed erect and earth put about him so as to cover and support him; that when another died a narrow passage was dug to the first, the second reclined against him and the cover of earth replaced, and so on. There being one of these in my neighborhood, I wished to satisfy myself whether any and which of these opinions were just. For this purpose I determined to open and examine it thoroughly. It was situated on the low grounds of the Rivanna, about two miles above its principal fork, and opposite to some hills on which had been an Indian town. It was of a spheroidal form, of about forty feet diameter at the base, and had been of about twelve feet altitude, though now reduced by the plow to seven and a half, having been under cultivation about a *dozen* years.* Before this it was covered by trees of a foot in diameter, and round the base was an excavation of five feet depth and width, from whence the earth had been taken of which the hillock was formed. I first dug superficially in several parts of it, and came to collections of human bones at different depths from six inches to three feet below the surface.† These were lying in the utmost confusion, some vertical, some oblique, some horizontal, and directed to every point of the compass, entangled and held together in clusters by the earth. Bones of the most distant parts were found together, as, for instance, the small bones of the feet in the hollow of a skull. Many skulls would sometimes be in contact, lie on the face, on the side, on the back, top or bottom, so as, on the whole, to give the idea of bones emptied promiscuously from a bag or basket, and covered over with earth without any attention to their order. The skulls were so tender that they generally fell to pieces on being touched. The other bones were stronger. There were a rib and a fragment of the under-jaw of a person about half-grown, a rib of an infant, and a part of the jaw of a child which had not cut its teeth, this last furnishing the most decisive proof of the burial of children here. I proceeded then to make a perpendicular cut through the body of the barrow, that I might ex-

* This shows how rapidly these earthworks are reduced by cultivation, and consequently how soon they disappear under such circumstances, while herbage and forests not only protect and preserve them, but also actually increase their size.

† That would make these remains about five feet to seven and a half feet below the original summit of the mound.

amine its internal structure. This passed about three feet from its centre, was opened to the former surface of the earth, and was wide enough for a man to walk through and examine its sides. At the bottom, that is, on the level of the circumjacent plain, I found bones, and above these a few stones brought from a cliff a quarter of a mile off, and from the river one-eighth of a mile off; then a *large* interval of earth, then a stratum of bones, and so on.* At one end of the section were four strata of bones plainly distinguishable, at the other three, the strata in one part not ranging with those in another. The bones nearest the surface were least decayed. No holes were discovered in any of them as if made by bullets, arrows or other weapon. I conjectured that in this barrow might have been one thousand skeletons. Appearances certainly indicate that it has derived both origin and growth from the accustomary collection of bones and deposition of them together.†

But on whatever occasion they may have been made, they are of considerable notoriety among the Indians; for a party passing, about thirty years ago, through the part of the country where this barrow is, went through the woods directly to it, without any instruction or inquiry, and having staid about it some time, with expressions which were construed to be those of sorrow, they returned to the high road, which they had left about six miles, to pay this visit, and pursued their journey. There is another barrow, much resembling this, in the low grounds of the south branch of the Shenandoah where it is crossed by the road leading from Rockfish gap to Staunton. Both of these having within these dozen years been cleared of their trees, and put under cultivation, are much reduced in their height, and spread in width by the plough, and will probably disappear in time. There is another on a hill in the Blue Ridge Mountains, a few miles north of Wood's gap, which is made up of small stones thrown together. This has been opened and found to contain human bones, as the others do. There are also many others in different parts of the country."

Bartram gives the following account of the manner in which the Choctaws dispose of their dead: "As soon as a person is dead,

* It is probable that the remains covered with stones were those of the person to whom the "large" heap of earth above them was erected, and that the mound was converted by the Indians into a burial-place without any knowledge of its contents.

† This verifies the conjecture that the bones deposited in temples and on scaffolds, as in Florida, among the Choctaws, etc., are at intervals of time, accordingly as they accumulate, thus disposed of.

they erect a scaffold eighteen or twenty feet high, in a grove adjacent to the town, where they lay the corpse tightly covered with a mantle ; here it is suffered to remain, visited and protected by the friends and relations, until the flesh becomes putrid, so as easily to part from the bones ; then undertakers, who make it their business, carefully strip the flesh from the bones, wash and cleanse them, and, when dry, purify by the air ; having provided a curiously wrought chest or coffin, fabricated of bones and splints, they place all the bones therein ; it is then deposited in the bone-house, a building erected for that purpose in every town. And when this house is full, a general solemn funeral takes place ; the nearest kindred or friends of the deceased on a day appointed repair to the bone-house, take up their respective coffins, and following one another in order of seniority, the nearest relations and connections attending their respective corpse, and the multitude following after them, all as one family, with united voice of alternate allelujah and lamentation, slowly proceed to the place of general interments, where they place the coffins in order, forming a pyramid, and lastly cover all over with earth, which raises a conical hill or mount. Then they return in order of solemn procession, concluding the day with a festival which is called the feast of the dead."

In one of the earliest accounts of Virginia is the following : " In the same township they had places of devotion as well as of feasting. The idol they worshipped, called Kiwasa, was carved out of wood, about four feet high, and seemed to be copied from the Floridian idols. The head was of a flesh-color, the breast white, and all the rest of the body black. It was placed at Secota, in the sepulchre of the deceased princes, but we do not find that the natives were originally impressed with any great degree of devotion towards it, for it remained in the tomb as an object of terror rather than of worship. In other repositories, two, and sometimes four or more of these idols were placed for the same purpose, but all of them in the darkest part of the building, to give them the more tremendous appearance.* As to the temple or sepulchre, it was no other than a scaffolding raised upon poles some ten feet from the

* One of the Indian chiefs of Virginia, carrying an idol with his forces, attacked Smith's men ; the Indians were defeated and the idol captured. Smith made them pay dearly for its restoration.

In the life of the Duke of Berwick, it is related that a Portuguese army having entered a stream, in approaching to attack a fort, confusion was observed in their column, and that it was caused by a cannon-ball having carried away the head of the image of a saint which the Portuguese carried at the head of the column. The result was that the Portuguese retreated in disorder.

ground, covered with mattings upon which they laid the bodies after they had been carefully emboweled, and the skin and flesh scraped from the bones. The flesh with the bowels they wrapped up in mats, and placed at the feet of the skeletons, but they had an art of covering the skeleton with skins so artfully stuffed that it retained the appearance of the complete body.* Below the scaffolding the priests had their habitations upon the skins of wild beasts, and they were employed in mumbling prayers and in guarding the sepulchre."

Garcellasso mentions a similar custom among the Florida Indians, in 1527. Ortis, one of four Spaniards who were inveigled into the power of a Floridian chief, was ordered by this chief "to guard, day and night, the dead bodies of the inhabitants of the village. These bodies were in the midst of a forest, in coffins of wood, covered with boards which were not fastened but retained only by the weight of some stones, or of some pieces of wood which were placed upon them."

Though in the last two accounts of the disposal of the dead, that of the dead in Virginia, and that of the dead in Florida, it is not stated what final disposition was made of the bones, yet, considering the great accumulation of them in time, it is probable that they were finally deposited as those of the Choctaws, as related by Bartram.

"In the provinces of Tatabe and Guaca, near Antioquia, on the western branch of the river Magdalena, in South America, when one of the chiefs dies the people mourn for him for many days, cut off the hair of his wives, kill those who were most beloved, and raise a tomb the size of a small hill, with an opening towards the rising sun. Within this great tomb they made a large vault, and here they put the body, wrapped in cloths, and the gold and arms the dead man had used when living. They then take the most beautiful of his wives and some servant-lads, make them drunk with the wine made of maize, and bury them alive in the vault, in order that the chief may go down to hell with his companions.

* It is worthy of notice that Garcellasso, in his description of the Temple of Talemeco (which appears a fiction), says: "At the base of the walls there were wooden benches, very well worked, where are placed the coffins of the lords of the provinces and their families. Two feet above these coffins, in the niches of the wall, are seen the statues of the persons who are buried there." Among several tribes of South America, the skins of men were used as stated in the text, and the image preserved suspended from a beam of a house. So Ciezar de Leon relates.

In ancient times there was a great population in these valleys, as we judge from the edifices and burial-places, of which there are many well worth seeing, being so large as to appear like small hills.*

When Guachoa believed that Soto was dead, as he really was, though the Indians were told otherwise, he commanded two young, well-proportioned Indians to be brought to Moscoso (commander after the death of De Soto), and said that the usage of that country was when any lord died to kill Indians, to wait upon him and serve him by the way, and for that purpose by his commandment were these sent to him, and prayed Moscoso to command them to be beheaded, that they might attend and serve his lord and brother Soto. Moscoso refused to do this, and requested him to command the Indians to be loosened and not to use any such custom thenceforth. Straightway Guachoa commanded them to be loosened and to get them home."†

Bartram thus speaks of the graves of the Yamasees:

"It was quite dark before I came to a bluff, which I had in view a long time over an extensive point of meadows. I landed, however, at last. This was a high, perpendicular bluff, fronting more than a hundred yards on the river (St. John), the earth black, loose, and fertile. It is composed of river-shells, sand, etc. At the back of it were open pine forests and savannas. When I landed it was quite dark, and, in collecting wood for my fire, strolling in the dark about the groves, I found the surface of the ground very uneven by means of little mounds and ridges. In the morning I found I had taken up my lodgings on the borders of an ancient burying-ground, containing sepulchres and tumuli of the Yamasees, who were here slain by the Creeks in the last decisive battle, the Creeks having driven them into this point between the doubling of the river, where few of them escaped the fury of the conquerors. These graves occupied the whole grove, consisting of three acres of ground. There were nearly thirty of these cemeteries of the dead, nearly of an equal size and form, being oblong, twenty feet in length, and ten or twelve feet in width, and three or four feet high, now overgrown with orange trees, live oaks, laurel, magnolias, red bay, and other trees and shrubs, composing dark and solemn shades.

These tumuli might indicate an ancient cemetery of the Yamasees, or of some ancient people who inhabited Florida. But if the Yamasees were here *exterminated* by the Creeks, it is not probable

* Ciezar de Leon.

† Garcilasso's "Conquest of Florida."

that the latter would have been so considerate as to raise these mounds over the remains of their enemies.

The pyramidal hills or artificial mounds and highways or avenues leading from them to artificial lakes or ponds, vast tetragon terraces, chunk-yards,* and obelisks or pillars of wood, are the only monuments of labor, ingenuity, and magnificence that I have seen worthy of notice or remark. The region lying between the Savannah River and the Ockmulgee, east and west, and from the sea-coast to the Cherokee or Appalachian Mountains, north and south, is the most remarkable for these high conical hills, tetragon terraces, and chunk-yards. This region was possessed by the Cherokees since the arrival of the Europeans, but they were afterwards dispossessed by the Muscogulges, and all that country was, probably many ages preceding the Cherokee invasion, inhabited by one nation or confederacy, who were ruled by the same system of laws, customs, and language, but so ancient that the Cherokees, Creeks, and the nation they conquered, could render no account for what purpose these mounds were raised. The mounds, and cubical yards adjoining them, are always so situated as to command the most extensive prospect over the town and country adjacent. The tetragon terraces seem to be the foundation of a fortress, and, perhaps, the great pyramidal mounds served the purpose of lookout-towers and high places of sacrifice. The sunken area, called by white traders the chunk-yard, very likely served the same conveniency that has been appropriated to it by the more modern and even present nations of Indians—that is, the place where they burnt and otherwise tortured the unhappy captives that were condemned to die, as the area is surrounded by a bank, and sometimes two of them, one behind and above the other, as seats, to accommodate the spectators at such tragical scenes, as well as the exhibition of games, shows, and dances. From the river St. Juan (St. John) southerly to the point of the peninsula of Florida are to be seen high pyramidal mounds, with spacious and extensive avenues leading from them out of the town to an artificial lake or pond of water.

The great mounds, highways, and artificial lakes up St. Juan, on the east shore, just at the entrance to the great Lake George, one on the opposite shore, on the bank of the Little Lake, another on Dunn Island, a little below Charlottesville; one on a large

* "Chunk-yard, a term given by the white traders to the oblong, four-square yards adjoining the high mounts and rotundas of the modern Indians. In the centre of these stands the obelisk, and at each corner of the farther end stands a slave-post or strong stake, where the captives that are burnt alive are bound."

beautiful island just without the Cape George, in sight of Mount Royal, and a spacious one on the west bank of the Mosquito river, near New Smyrna, are the most remarkable of this sort that occur to me. But undoubtedly many more are yet to be discovered farther south in the peninsula. However, I observed none westward, after I left St. Juan, on my journey to little St. Juan, near the bay of Apalache.

But in all the region of the Muscogulge country, southwest from the Ockmulgee River, quite to the Tallapoosa, down to the city of Mobile, and thence along the sea-shore to the Mississippi, I saw no sign of mounds or highways, except at Taensa, where were several inconsiderable conical mounds, and but one instance of the tetragon terraces, which was at the Apalachula old town, on the west bank of that river. Here were yet remaining conspicuous monuments as vast four square terraces, chunk-yards, and almost equalling those eminent ones at the Ockmulgee fields, but no high conical mounds. These Indians have a tradition that these remains are the ruins of an ancient Indian town and fortress. I was not in the interior parts of the Choctaw territories, and therefore am ignorant whether there are any mounds or monuments there.

To conclude this subject concerning the monuments of the Americans, I deem it necessary to observe as my opinion, that none of them that I have seen discover the least signs of the arts, sciences, or architecture of the Europeans or other inhabitants of the Old World, yet evidently betray every sign or mark of the most distant antiquity.*

Laudonnier visited the Florida peninsula in 1564. In his account of his expedition he says: I sent my two barks to discover along the river and up towards the head (Lake George) thereof, which went so far up that they were thirty leagues good beyond a place named *Mathiaqua*, and there they discovered the entrance of a lake, upon the one side whereof no land could be seen, according to the report of the Indians, who had oftentimes climbed on the highest trees in the country to see land, and notwithstanding could not discover any, which was the cause why my men

* Bartram. On the maps of Florida are marked several large mounds, nearly as low down as the latitude of the Calloocahatche River. At St. Petersburg, on Tampa Bay, are two very large shell mounds, probably thirty-five feet in height; two others about half this height, and one, which appears to be very old, medium height, about seventy yards south of those mentioned, and apparently almost entirely of sand, while the others are wholly of oyster-shells. The shell mounds are symmetrical cones.

went no further, but returned back, and in coming home went to see the *Island of Edelano*, situated in the midst of the river—as fair a place as any that may be seen through the world, for in the space of some three leagues, that it may contain in length and breadth, a man may see an exceedingly rich country, and marvellously peopled. At the coming out of the village of *Edelano* to go unto the river's side, a man must pass through an alley about three hundred paces long and fifty paces broad, on both sides whereof great trees are planted, the boughs whereof are tied together like an arch, and meet together so artificially that a man would think it were an arbor made of purpose, as fair, I say, as any in all Christendom, although it be all natural.

CHAPTER XXVI.

Effigy Mounds—The Mounds of Wisconsin—The Elephant Mound—Elephants' Skeletons at Big Bone Lick in 1785.

IN the vicinity of the Great Lakes and in the States of Wisconsin, Iowa, Michigan and Missouri these constructions (tumuli) are made of earth, of conic shape, or are in the form of animals, birds, reptiles, and even in that of men. In the interior of these monuments relics of art have been discovered belonging to a very ancient period, and consisting of personal ornaments, domestic utensils, or articles connected with religious worship made of different metals or of *pietra dura*.

The antiquities of the South are remarkable for the great regularity of their structure and their extraordinary size. They have accordingly been looked upon as the work of a different nation and of a different epoch. These mounds are composed of several stories, and have some resemblance to the Mexican *Teocallis*, owing to their pyramidal shape, their dimensions, their spacious terraces, lofty passages, and long avenues. They are found in large numbers all over the country from Florida to Texas. Smaller hillocks placed at regular intervals often surround the larger ones. Some have paths winding round them from the base to the summit, others have gigantic steps like slopes in European fortresses.

In the northwestern part of the United States the ~~mounds~~ ^{earthworks} are of a different character from those of the north and the south. These earthworks of the northwest are mostly in the form of ~~the~~

—, serpents, buffaloes, and some other animals; frequently they represent figures of men. The colossal effigies are found on undulating meadows, together with artificial conical hillocks, and sometimes with enclosure walls. These singular monuments can more frequently be seen in the southern counties of Wisconsin; some also are seen in the Prairie du Chien, on the Mississippi, to the east of Fond du Lac, near Milwaukee, Lake Winnebago, and Lake Michigan, over an extent of more than one hundred and forty-eight miles in length and sixty in breadth. The Indian road called the Great War Path, which extends from Lake Michigan to the Mississippi, bending over the Prairie du Chien, divides in two this line of earthworks, the origin and destination of which are shrouded in mystery.

These species of hillocks are smaller than in the rest of the American continent. They are seldom single, but generally in a line, or clustered in groups. Their height is by no means proportionate to their other dimensions, varying between eighteen inches and six feet. In the county of Dade (State of Wisconsin) is to be seen a row of these mounds representing a herd of quadrupeds, probably buffaloes, each thirty-five yards in length. A human figure forty-eight yards long, with its legs apart, is distinguishable in another place. Such groups are very common the whole length of the above-mentioned road. Human bones evidently of great antiquity have been found in them.*

The following from an article by Rev. Stephen D. Peet, published in the Wisconsin Historical Collection, will give an idea of effigy mounds found in the State of Wisconsin:

"In the years 1849-50, about the time the territory became a State, Dr. J. A. Lapham, who was an early settler, became interested in these mounds, and having prepared a volume upon the history and topography of the State, he also prepared a report of these ancient works, which was published in the fourth volume of the Smithsonian Contributions. It is a remarkable fact that the large majority of these works were situated on the natural lines of travel, and at those prominent places which first attracted the attention of settlers. Many of them have since been obliterated, and the progress of civilization has served to hide them from notice.

There is a sense of satisfaction in perpetuating this record, for the strongest and dearest associations of the prehistoric race were evidently clustered about these very monuments. Not only were tribal names and tribal signs embodied in them, but social cus-

* Domineche.

toms and religious rites were connected with them. Thus preserving these shapes we not only preserve the *divinities*, which were very sacred to the prehistoric race, but we preserve also the symbols which will help us better to understand the primitive society and customs which prevailed here.

A strange superstition seems to have fixed upon these animal shapes to make *divinities* of them.

In considering these figures there are two or three divisions of them : first, those representing inanimate objects, such as weapons, badges, and various emblems which were familiar to the native races ; second, animal effigies as such, using the word animal in the peculiar sense of four-footed beasts, and all creatures inhabiting the water or land belonging to the order of mammalia ; third, the effigies of birds and winged creatures. Another division might also be added and made to include fishes, reptiles, and such creatures as have neither wings nor legs.*

The animals represented belong to all the different kingdoms. Of four-footed beasts we have the effigies of ruminant or grazing creatures, like the buffalo, deer, and elk. Also beasts of prey, such as the wolf, the fox, the bear, panther and wild-cat, and the various fur-bearing animals, such as the weasel, the beaver, the badger, skunk, and raccoon. Of rodents we find squirrels, muskrats, hares, and rabbits. Of birds we find mainly the large and more common varieties, such as the wild goose, loon, crane, bittern, sand-hill crane, and the eagle. Of the smaller birds we find many specimens of the hawk, pigeon, snipe, duck, night-hawk, and owl. Of the reptiles, turtles are the most numerous, and there seems to be a great variety of these represented. Lizards also are common, snakes of various kinds ; and of the batrachia, frogs, toads, and salamanders. Of the fishes, perch, pickerel, catfish, and bass. These animals are found associated closely together, without regard to their order or species, but only according to their familiarity or commonness. Their effigies are frequently grouped together on the banks of lakes.”†

But the most notable one is an eminence near the highway between Williams Bay on Geneva Lake and the head of Duck

* “The Egyptian deities are innumerable. There were countless gods in heaven, and below the earth. Every town and village had its local patron. Every month of the year, every day of the month, every hour of the day had its presiding deity.”—P. Le Page Renouf.

The serpent effigy was worshipped in Scotland, India, and America. The Egyptians had various animal deities—the bull, the dog, the cat, the ibis, the crocodile, etc.

† Peet.

Lake, overlooking both. This is in the form of a bow and arrow. The span of the bow is about fifty feet across, which has the arrow of corresponding size aimed for a discharge into the Geneva Lake. The idea is truly conceived and executed. In this mound specimens of Indian pottery have been found.

In reference to the elephant mound, we can say nothing from personal observation. The first one to call attention to this peculiar effigy was Mr. Jared Warner, who says: "The mound has been known here for the past twenty-five years as the Elephant mound." His account of it was published in the Smithsonian Report for 1872. It is situated in the high sandy bottom-lands of the Mississippi, on the east side, about eight miles below the mouth of the Wisconsin River, is in a shallow valley, and only about eight feet above high water, yet it is so situated as always to escape the floods. Its total length is one hundred and thirty-five feet; its width from hind-feet to back sixty feet; from fore-feet to back, sixty-six feet; from end of proboscis to neck or throat, thirty-one feet; from end of proboscis to fore-legs, thirty-nine feet; from fore-legs to hind-legs, fifty-one feet; across fore-legs, twenty-one feet; across hind-legs, twenty-four feet; across body, thirty-six feet; general height (above the natural surface), five feet.

The late Moses Strong, of our State Geological Survey, described it in 1876, and says:—"It resembles an elephant much more closely than any other animal, and the resemblance is much more perfect in this than in any other effigies."

Dr. J. S. Phene visited it during his tour through the State, and does not hesitate to call it an elephant mound. He also visited a mound north of Prairie du Chien, which he thinks is an effigy of a camel. It is situated in a ravine which goes by the name of Camel Coolie, the name of the gulch being taken from the camel shape of the mound. We give this account as furnished by Dr. Phene himself.*

* Though there are remains of the mastodon, the elephant, the rhinoceros and the camel in North America, yet could these mounds have been erected during the existence of these animals? On the 10th of November, in the year 1756, Captain Bossu wrote the following: "There arrived here yesterday an express despatched from Fort du Quesne to our Commandant, by which we learn that the English make great preparations to return to attack this post. Macarty has sent a convoy of provisions to revictual the fort. The Chevalier de Villiers commands it in my place, my bad health not permitting me to undertake the journey. It would have enabled me to examine on the road the place where a savage found some elephants' teeth, of which he gave me a molar, which weighed about six and a half pounds.

In 1735, the Canadians (Indians) who came to make war on the Chickasaws

CHAPTER XXVII.

James G. Swan's Account of the Chenooks and Chehalis of "The Northwest Coast" of the United States—The Antiquity of the American Continent—How Long Inhabited by Man—Origin of the Human Race—The Jargon Language—Peculiarities of Indian Pronunciation.

JAMES G. SWAN, who resided three years in Washington Territory, published in 1857 "The Northwest Coast," in which he thus speaks of the Indians of that territory:—"Of the early history of the Chenook or Chehalis tribe nothing possibly can be known with certainty. Like all the rest of the North American Indians, they have no written legends or any other relics of antiquity. A few hieroglyphics, rudely carved on cedar slabs, are the only records I have met with, and these were only the Totems or Tomanawos of individual chiefs or doctors, and served rather, like the inscriptions on our grave-stones, to perpetuate the memory of the deceased, than to give, or attempt to give, any historical information.

All that we learn of the early history of these aborigines comes to us in the shadowy form of myths and allegories, and traditions related by the old. This is but poor authority for events that have transpired centuries ago, and we are only left to speculative theories to help us form what, from its very uncertainty, must be but a faint glimmering of the truth.

The tale of the origin of mankind, or rather of their tribe, for the Chenook and Chehalis appear to have the same account, was related to me several times by different Indians, but they did not agree together in detail.

This allegorical tale, if it means anything, would seem to refer to the coming of their ancestors from California or Mexico. But the Mexican traditions, on the contrary, continually refer to the fact of *their* ancestors coming from the north.

Some writers have asserted that the Indians are the lost tribes of Israel; others that they came over from the Asiatic shores and from China; some that they found their way around by the north-

found in the vicinity of the Ohio River the skeletons of seven elephants. These elephants were apparently found in a marshy land, where the enormous mass of their bodies having caused them to sink to their belly, had forced them to remain." This is probably the first notice of the "Big Bone Lick" of Kentucky, about twenty-five miles from Cincinnati. Croghan visited it about 1764.

west, either by crossing Behring Strait and proceeding gradually down the mainland, or coming directly across from the north-western shore of Asia in canoes or ancient vessels, similar to the Japanese and Chinese junks.

Other and more modern writers consider that these Indians came from the east of the Rocky Mountains, being forced away from the buffalo region by their more formidable neighbors. Of this latter class is General George Gibbs, who for many years has devoted himself to ethnological researches among the North American Indians, and who for the past six years has resided in Oregon and Washington Territories. General Gibbs, in a letter to me, dated Fort Steilacoom, Washington Territory, July 31, 1856, writes: 'In reading Longfellow's "Hiawatha" I find some startling resemblances to the Nisqually and Klikatal tales, so much so as to confirm the belief I already entertained of all these tribes having originated east of the Rocky Mountains, in the buffalo country, and emigrated by the northern passes to the great western basin, and thence down the Frazer's River and the Columbia to their present homes, forced away by more powerful neighbors.'

There is, however, no disputing the fact that they have occasionally received additions from the Asiatic side, although to what extent is not known. The prevailing northwest trade-winds of the summer season renders it very easy for canoes to come over from the northeastern Russian coast; and in evidence of that fact I can state that during my residence in the territory, a canoe with three sailors in it, who ran away from a vessel at Kodiak, arrived safe at Shoalwater Bay, after coming a distance of nearly eight hundred miles.

There is also a tradition among the Indians that a Chinese or Japanese junk was wrecked years ago on Clatsop Beach, south of the Columbia, part of the cargo being beeswax. And to prove the correctness of this tradition, there are to this day, occasionally, after great storms, lumps and pieces of this wax found on the beach.* I have had some of this wax given me by an old Indian doctor, who had picked it up on the beach. The crevices were still full of sand, and the action of salt water and the sun had bleached it nearly white. Wilkes also mentions the fact of a Chinese junk having been wrecked at Point Greenville in 1833, and three of the Japanese were rescued from the Indians by the Hudson Bay Company.

These instances simply prove that communication between the two shores of the North Pacific could be, and has been, made, but

* "There are no wild honey-bees west of the Rocky Mountains."—Swan.

show nothing further. My own belief is that, whatever was the origin of different tribes or families, the whole race of American Indians are native and indigenous to the soil. There is no proof that they are either the lost tribes of Israel, or emigrants from any part of the Old World. They are a separate and as distinct a race as either the Ethiopian, Caucasian, or Mongolian.

In the absence of all proof to the contrary, it seems to me to be both rational and consistent to assume that the Creator placed the Red race on the American continent as early as he created the beasts and reptiles that inhabit it." In Nott and Gliddon's "Types of Mankind" may be found the following :

"The Continent of America is often designated by the appellation of the *New* World, but the researches of modern geologists and archaeologists have shown that the evidences in favor of a higher antiquity, during *our* geological epoch, as well as for fauna and flora, are, to say the least, quite as great on this as on the Eastern hemisphere. Professor Agassiz tells us that geology finds the oldest landmarks here; and Sir Charles Lyell, from a mass of well-digested facts, and from the corroborating testimony of other good authorities, concludes that the Mississippi River has been running in its *present bed* for more than one hundred thousand years."*

Dr. Dowler, of New Orleans, supplies some extraordinary facts in confirmation of the great age of the Delta of the Mississippi, assumed by Lyell, Carpenter, Forshey and others. From an investigation of the successive growths of cypress forests around that city, the stumps of which are still found at different depths directly overlying each other; from the great size and age of these trees, and from the remains of Indian bones and pottery found below the roots of some of the stumps, he arrives at the following conclusions: From these data it appears that the human race existed in the Delta more than fifty-seven thousand years ago, and that ten subterranean forests, and the one now growing, will show that an exuberant flora existed in Louisiana more than one

* The Mississippi, between the mouth of the Red River, latitude 31° N., and the mouth of the Ohio River, nearly latitude 38° N., changes its bed in about every hundred years. The first cut-off I remember to have taken place was the "Needham," which occurred about 1828, or a year or so later, while there are records of the following, which happened before, viz.: False River, Homachette, Yazoo, all great cut-offs; besides these there are a number that occurred previously, not known when; some of the largest of which are Old River Lake, Grand Lake, Lake Washington, Lake Lafayette, Lake Providence, three lakes in Tensas Parish, La., Lake Concordia, etc. Probably the celebrated geologist considered the alluvium of the Mississippi as its *bed*, which, in fact, it is, but it often changes sides in it.

hundred thousand years anterior to these evidences of man's existence.

These authorities in support of the extreme age of the geological era to which man belongs are not simply the opinions of the few, but such conclusions are substantially adopted by the leading geologists everywhere. The rapid accumulation of new facts is fast familiarizing the minds of the scientific world to this conviction.*

Now the question naturally springs up, whether the *aborigines* of America were not cotemporary with the earliest races known to us on the Eastern continent.

If, as is conceded, Caucasian, Negro, Mongul, and other races, existed in the Old World already distinct, what reason can be assigned to show that the aborigines of America did not also exist five thousand years ago? The naturalist must infer that the fauna and flora of the two continents were cotemporary. All facts, all analogies, were against the supposition that America should be left by the Creator a dreary waste for thousands of years, while the other half of the world was teeming with organized beings. This view is also strengthened by the acknowledged fact that not a single animal, *bird*, *reptile*, *fish*, or *plant*, is common to the Old and New Worlds.† No naturalist of our day doubts that the animal and vegetable kingdoms of America were created where they are found, and not in Asia.

The races of men alone have been made an exception to this

* There may be mentioned as among these "new facts" the remains of a fire found seventeen feet below the apex of the "High Rock," which gave name to one of the springs of Saratoga, New York, described in a book entitled "Saratoga and How to See It," by Dr. R. F. Dearborn. There was a similar discovery in digging the Louisville and Portland Canal in Kentucky.

† Whales inhabit the Indian Ocean and the Arctic. It is but thirty-six miles from Asia to America, no great flight for a land-bird, while the range of seabirds extends to the limits of the continents. The *manatee* is—or was—found in Brazil and in Behring Strait. From this one may believe that there are both birds and fishes common to both hemispheres; but how it was originally it would be difficult to decide; but does not the fossil remains of plants and animals confirm it? Meyers, in his "Remains of Lost Empires," says: "The flora of the Mesopotamian plains are very similar to our own. Upon one short excursion we gathered twenty species, all of which belonged to genera familiar to us, and *five were identical with American home species.*" The same author, in speaking of the Valley of Cashmere, says: "The flora of the valley forms a striking similarity to our northern series of plants; *many of the species are identical with the species making up the flora of New England.*"

Behring Strait, which separates Asia from America, in its narrowest part is thirty-six miles in width, with islands between the two continents.

general law, but this exception cannot be maintained by any course of scientific reasoning.

Morton and Agassiz assume that all mankind did not spring from one pair, or even each race from distinct pairs, but that men were created in nations in the different zoological provinces where history first finds them. Niebuhr also expresses the same views in one of his letters. He writes: "I believe, further, that the origin of the human race is not connected with any given place, but is to be sought everywhere over the face of the earth, and that it is an idea more worthy the power and wisdom of the Creator to assume that He gave to each zone and climate its proper inhabitants, to whom that climate and zone would be most suitable, than to assume that the human race has degenerated in such innumerable instances."^{*}

All the tribes (some twenty-five) of the territory (Washington) speak a tongue which, though sounding the same to unpractised ears, is very different when understood, and even tribes so nearly connected as the Chenooks, Chehalis, and Queniults, being only a few miles distant from each other, yet members of the one cannot understand the language of the other. Still there are individuals of each who, from a roving, trading disposition, have become familiar with each other's tongue, and can usually make themselves understood. The Chehalis language is that most usually spoken at present; for the ancient Chenook is such a guttural, difficult tongue that many of the young Chenook Indians cannot speak it, but have been taught by their parents the Chehalis language and the Jargon. The Jargon is the medium with which the Indians hold intercourse with each other and with the whites, and is composed of the Chenook, French, and English languages. The first mention I have seen made of this Jargon is in "Meares's Voyages in 1788."

The Jargon is interesting as showing how a language can be formed. The words of three distinct languages—the French, English, and Indian—are made to form a separate and distinct tongue. It is a language, however, never used except when Indians and whites are conversing, or by two distant tribes who do not understand each other. The Indians speaking the same language no more think of using the Jargon while talking together than the Americans do.

It is a language confined wholly, I believe, to our northwestern

* It is evident that the Creator so made man that he could adapt himself to all conditions of climate; and men have done so from the Arctic to the Antarctic circles. Necessity in every instance compelled them to do so.

possessions west of the Rocky Mountains. It originated in the roving, trading spirit of the tribes, and has been added to and increased since the introduction of the whites among them.

Of the origin of the languages of the different tribes it is impossible even to conjecture, but it certainly seems to me that if, as has been alleged, these tribes did come from Asia, there would have been some similarity in the languages by which they could be traced.

Among the Chehalis Indians, and even among the Chenoos, are found words occasionally strikingly resembling those of some foreign country. *Connath inisku*, an expression of derision, which is something similar to the remark, You are stupid or half-drunk, is certainly very similar in appearance and sound to Irish words, but it must be poor evidence by which to prove that the Indians were originally Irish. But I believe there are more Irish-sounding words in the Chehalis language than there are Hebrew; and, so far as any sound of words go, it is as easy to prove their descent from the Irish as it is from the lost tribes of Israel.

As early as 1819 Mr. Duponceau advanced the following: "That the American languages in general are rich in words and grammatical forms, and that in their complicated construction the greatest order, method, and regularity prevailed; that these complicated forms, which he calls polynthetic, appear to exist in all the languages from Greenland to Cape Horn,* and that these forms differ essentially from those of the ancient and modern languages of the old hemisphere."

Gliddon remarks: "The type of a race would never change if kept from adulterations, as may be seen in the case of the Jews and other people. So with languages; we have no reason to believe that a race would ever lose its language if kept aloof from foreign influence. It is a fact that in the island of Great Britain the Welsh and Erse are still spoken, although for two thousand years pressed upon by the strongest influences tending to exterminate a tongue. So with the Basque in France, which can be traced back at least three thousand years and is still spoken. Coptic was the language of Egypt for at least five thousand years, and still leaves its traces in the languages around. The Chinese has existed equally as long, and is still undisturbed.

Wherever the Jews, or the Chinese, or the Gipsies, or Negroes, have wandered from one part of the world to the other they have, either in general appearance or in language, retained a separate

* It would be interesting to know the number of languages between Cape Horn and Greenland and the philologist who is familiar with them.

and distinct position ; and it is but natural to conclude that if the American Indians had come from Asia they would certainly have retained something, either in language or appearance, like the tribes of the Old World.

Leaving what must, to us, remain always an uncertainty as to the origin of the Indian language, and descending to the practical, or language of the present, as we find it, the most casual observer must be struck with the great similarity in the endings of many of the Chehalis words with the Mexican or Aztec *tl* ; as, for instance, *aquail-shill*, the north wind ; *parlam-shill*, raspberry ; *joquitl*, get up ; *shooks-quill*, to-day ; *se-cartl*, spruce ; *sheo-quintl*, cedar ; *sartl*, two, etc.

That the northern tribes, or those of Oregon and Washington, have been accustomed to long journeys south, is a fact which is easily shown. When Fremont first commenced hostilities in California a large body of Walla-Walla Indians from Columbia were creating disturbances in the region of Sacramento. These Indians formerly made regular excursions to the south every year, on horseback, for the purpose of trade or plunder.

The wife of Mr. Ducheney, the agent at Chenook for the Hudson Bay Company, who is a very intelligent woman, informed me that her father was a Frenchman and her mother a Walla-Walla Indian, and that when she was quite a child she recollects going with her mother and a party of her tribe to the south for a number of months, and that they were three months going and three months returning ; that they took horses with them and Indian trinkets, which they exchanged for vermillion and Mexican blankets ; and that on their return their mother died, and was buried where the city of Sacramento now stands. I asked her how she knew where Sacramento was, and she replied that some of her friends had since gone to California, to the gold-mines, and that on their return they said that it was at Sacramento where her mother was buried.

She was too young to remember how far into Mexico they went, but I judged the vermillion she mentioned was obtained from the mountains of Almaden, near San Jose, California. But I have no reason to doubt the statement, as I have heard similar statements from other sources. These facts would seem to give weight to the supposition that at some time or other the Mexican Indians had been among the northern tribes. Or it may be considered, on the other hand, by those who believe in a northwestern exodus from Asia, as a proof that, as the Mexican ending *tl* is found among the tribes still further north, the Mexicans themselves originated in that quarter.

Many words of English origin in the Jargon are dressed in an Indian phraseology simply by using the letter *L* instead of *R*. The reason is that the Indians cannot sound *R* when used as the commencement of a word. Thus, for instance, rice is pronounced *lice*; rope, *lope*; rum, *lum*; bread, *bled*; le pretre, *la plate*; key, *klee*, etc. Other words are quite as difficult for them to pronounce. Thus, they call shovel, *shuml*; vinegar, *mingar*. *F* is also sounded like *P*; as *pire* for fire; *pork* for fork.

The Chehalis is very rich in words, and every one is so expressive that it is not possible, like the Jargon, to make mistakes. The difficulty of learning either the Chenook, Chehalis, or Queinult language is that the tribes are so near each other they frequently used each other's words in conversation. They appear to have a great aversion to learning the English language, contenting themselves with the Jargon, which they look upon as a sort of white man's talk. They, however, are not averse to learning the French, probably because they can imitate the sound of French words easier than they can the English.

The tribes of the coast are broken up into small bands, continually roaming about, and the only aim they appear to have is to become *tyee*, or chief, which with them means to get as much property as they can, either in slaves, canoes, blankets, horses or guns, and then idle away their time.

It is difficult to account for the great dissimilarity to be found among the Indians in regard to language. Living so near to each other, having so ready and constant communication, living in the same style, with the same natural objects around them, it would appear as if they would be much more likely to speak the same dialect. That these bands between the Columbia and Fuca Straits should differ so, is a subject that I am not ethnologist enough to discover."**

CHAPTER XXVIII.

The Caraibs, their Skill, their Poisoned Arrows, their Burial, their Food, their Vessels, their Navigation, Caracoli—Caraib Ornaments—Their Baskets—Their Medical Knowledge—Toulola or Arrow-root, their Antidote to Poisoned Arrows—Their Fabric—Their Destruction.

THE CARAIBS.

THE habits, manners, and many other circumstances of the Caraibs having differed much from those of the other natives of

* "The Northwest Coast; or, Three Years' Residence in Washington Territory," by James G. Swan.

the West India Islands, and from those of the Mexican, Peruvian, etc., on the Continent of America, it is not easy to trace their origin. In some respects they resemble the Indians of the islands and of the continent; in others they differ from them. They might have descended from some civilized people who were driven to the West Indies by the winds in former time, for it is highly probable that the descendants of such a people in such a climate would degenerate into savages. The people called by the Spaniards Guauches, who were found in the Canary Islands when discovered by Juan de Belencourt, in 1402, had become savages. These islands, under the denomination of the Fortunate Islands, were well known to the ancients. The Greeks, Phœnicians, and Carthaginians traded to them, and the Guauches are, with good reason, supposed to be the descendants of the Phœnicians, or of the Carthaginians, yet they had no idea of their origin, nor did they know there was any country besides the Canaries in the world. Their complexions resembled those of the people on the coast of Africa, which is distant about a hundred and eighty miles from the Canaries, but their language, manners and customs have no resemblance to those of the present inhabitants of Africa. They now live chiefly in the mountains, and goats' milk constitutes the principal part of their food. Their skins are tawny, their noses are flat, and they are bold, hardy, and active. Such of them as remained have been in part civilized by the Spaniards. The Guauches retained no traces of civilization; they were masters of no sciences, nor had they retained the use of iron.

The Caraibs had more arts among them than the Guauches, but they were not so active. Some writers have given credence to the accounts they have met with of the Carthaginians having had some intercourse with America, but the fact cannot be substantiated, otherwise we might be led to believe that they had planted a colony in the islands of the Caraibs. There is no difficulty, however, attending the belief that some Phœnicians or Carthaginians might have been blown into the West Indies in very early times, and the navigators, unacquainted with the nature of the trade winds, might have found it impossible to return. Such a circumstance is not more unlikely than that Robert Makin, in his voyage from England to France, should be blown by contrary winds to the Island of Madeira, in 1344; that is, seventy-five years before the island was discovered by the Portuguese, yet that fact seems to be tolerably well authenticated. A Carthaginian vessel with both men and women on board might have got into the trade-winds and been driven by them to the West Indies, when,

finding the impossibility of returning, they might have formed a settlement. Or, if they had no women with them, they might have discovered the continent, or the large islands, and procured wives from thence. In process of time their numbers might have increased so as to form the scanty population of St. Vincents, Martinico, Gaudaloupe, Dominico, and the other small islands where the Caraibs were settled.

The Caraibs knew how to make their carbets, or houses, their boats, their cloth, their blankets, their arms, their hammocks, and to prepare their provisions.

Father Labat has given an account of the only Caraib carbet which remained in the island of Martinico in the year 1696. It was sixty-four feet long and about twenty-four feet wide. The posts on which it was erected were rough, forked, and the shortest of them about nine feet above ground; the others were proportioned to the height of the roof. The windward end was inclosed with a kind of wickerwork of split flags, the roof was covered with the leaves of the wild plantain—three or four of them will make a large umbrella—the laths were made of reeds. The other end was nearly all open.

The hammocks of the Caraibs might lead to a suspicion that they were the descendants of some maritime adventurers who were driven to the West Indies and there perpetuated the use of the hammocks, which they probably had been accustomed to in their vessels. This article, however, was used by the Indians of the continent and of the large islands. Whether the other Indians learned the use of them from the Caraibs, or the Caraibs from them, cannot be ascertained. They were made of coarse cotton cloth six or seven feet long and twelve or fourteen feet wide; each end was ornamented with cords, which were two and a half or three feet long, twisted and well-made. All the cords at each end were joined together, and formed loops through which a long rope was inserted in order to fasten the hammock to the posts at the sides of the house and support the persons with them. They were nearly all painted red with the roncou or anotto before they were used.

The hammocks of the Caraibs were much superior to those made in Europe. One of them would last longer than three of those made by Europeans. The thread of which they were made was stronger and better spun, and they were more firmly woven, yet the spinning-wheel was not known among the Caraibs. They had, however, spindles made of the hardest and heaviest wood they could find. One turned the spindle, another drew out the thread, something in the manner of making ropes.

The Caraibs were generally rather above the middling stature, well-made and proportioned, and their countenances were rather agreeable. Their foreheads had an extraordinary appearance, as they were flat, or rather hollow or sunken, like the foreheads of many of the Indians. Their heads were shaped like those of other people when they were born, but the heads of infants were made flat by force, a board being bound tightly on their foreheads by a ligature, which was wound round their heads and left there until the heads of the infants had taken the desired form. The forehead then remained flat, so that they could see perpendicularly when standing erect, and over their heads when lying down, which were the objects aimed at by this mode of disfigurement. They had small, black eyes, but the flatness of their foreheads made their eyes appear rather larger than they otherwise would have done. Their teeth were beautifully white and even; their hair was long and of a glossy black. Their hair was anointed with the oil of the palmachristi, which they called carapat. It was difficult to judge of the color of their skin, because they were always painted with roucou, which gave them the appearance of boiled lobsters. The coat of paint served them as a species of clothing, preserving their skins from the hot rays of the sun and defending them against the mosquitoes and gnats, which would nearly have devoured them had their skins been naked; but these insects have great antipathy to the roucou. Every morning, or whenever they rose from their hammocks, they washed themselves in the sea, or in some river, and when the sun had dried them they sat in their carbets until their wives had tied their hair, oiled it, and after dissolving some roucou in castor oil they painted them with a brush from head to foot. The black streaks on their faces lasted about nine days, after which they wore off. Round their waist they had a belt which served to support some small weapon, and it also had annexed to the front of it a slip of cloth five or six inches wide and of a suitable length. The male children wore the belt without any cloth until they were ten or twelve years old. Their countenance had a cast of melancholy, but they were said to be harmless, inoffensive people until they were inflamed by passion, which transformed them into furies.

The women were not so tall as the men, but they were equally well made, and tolerably fat. Their eyes and hair were black, their faces round, their mouths small, and their teeth beautiful. They had a gay and lively air, and their countenances were smiling, and much more agreeable than those of the men; but

they were, notwithstanding, perfectly reserved and modest. They were painted red with roucou, the same as the men, but without the mustaches or black lines. Their hair was tied at the back of their heads with a cotton fillet. To the belt round the waist they had fastened in front a small piece of cotton cloth, worked, embroidered, and ornamented with beads of different colors, such as they made their necklaces of; it was also ornamented with a fringe of necklaces, three inches wide. This article was called the camisa; it was four or five inches deep, exclusive of the fringe, and eight or ten inches wide. The belt or cord which fastened it round the loins was attached to each side of the camisa. Most of the women had round their necks several strings of beads of different colors and sizes, which hung down on the breast, and five or six bracelets of the same kind, which were fixed on the wrists, and above the elbows. Blue stones or strings of beads hung as pendants from their ears. Infants at the breast and children of eight or ten years of age had bracelets and a girdle of large beads round the waist.

A species of ornament that was peculiar to the women was a kind of buskin which was made of cotton. It was fixed just above the ankle, and extended four or five inches above it. When the girls were about twelve years of age they received the camisa, instead of the belt of beads, which they wore till then; and the mothers, or some of the relations, made the buskins for their legs. These they never put off until they were worn out or torn by some accident. They had no method of taking them off, for they were made on the legs, where they were intended to remain. They were so tight that they could not slip either upwards or downwards. At the age when they were put on, the legs were not full grown, therefore as they increased in growth, the buskins caused the calves to grow much larger and harder than they would naturally have done. The buskins had at each edge a border made so strong that it stood out like the edge of a plate. The upper border was about an inch, the under one about half an inch wide. The buskins were pretty ornaments for the legs of women; they wore them all their lifetime, and were buried in them.

When the young women had assumed the buskins and camisa they no longer lived among the boys with the same familiarity as before, but remained continually with their mothers. Hence it is evident much regard was paid to decency and propriety of conduct. It was rare, however, that a girl remained till that age without being engaged by some boy, who, after having declared his will, considered her as his future spouse, and waited for her

to become of the proper age. Among them, parents had the right to take the daughters of their relations, and often did take them, at the age of five years, and bring them up for wives for their sons. Only two degrees of kindred were prohibited marrying by the Caraibs; these were mothers and their children, and brothers and sisters. There was no limit to the number of wives—a Caraib took as many as he chose, and frequently married several sisters, who were his cousins-german or his nieces. They pretended they would love each other the better on account of their being brought up together, as well as being better acquainted with each other, be the more ready to serve each other, and that the wives would be more obedient to their husbands;* for the Caraibs, like other savages, including *white savages*, considered their wives as their servants.

The Caraibs were melancholy, idle, and the most indifferent of all created beings. They passed whole days in their hammocks, or in getting in and out of them. Only three things could rouse them from their state of indifference: First. In regard to their wives, they were extremely jealous; they would kill them on the slightest suspicion of infidelity. Second. They were so excessively vindictive that when their passions were aroused no people in the world could be more vigorously active, or seek with more unremitting perseverance for opportunities to revenge an affront. Third. They had a most ardent passion for rum and other strong liquors, and they would give all they possessed for an opportunity to indulge in them to excess.

In their wars they were murderous and cruel. The heads of their arrows were barbed and poisoned, and they were fastened to the shaft in such a way that when they penetrated the body the shaft would fall off, and the head remain in the wound. Sometimes it was difficult to find the head, and it consequently remained a long time in the wound. Then it often happened that the poison remained long enough in the wound to prove mortal, for if it communicated to the vitals before the *arrow-root*, which is the only effectual antidote, could be administered, the case was without remedy.

When a Caraib died he was immediately painted all over with roucou, and his mustachios, and the black streaks on his face made with a black paint, which was different from that used in their lifetime. A kind of grave was then dug in the carbet—house,

* These are some of the reasons the Mormons give for their polygamy. To these might be added that sisters without children would take an interest in the children of their sisters.

where he died—about four feet square and six or seven feet deep. The body was let down in it, when sand was thrown in until it reached the knees, and the body was then seated on it, with the elbows on the knees, and the palms of the hands against the cheeks. No part of the body touched the side of the grave, which was covered with wood and mats, until the relatives had examined it. When the customary examination and inspection was ended the hole was filled, and the body afterwards remained undisturbed. The hair of the deceased was kept tied behind. The arms of the Caraibs were placed by them, when they were covered over for inspection, and they were finally buried with them.

The Caraibs were hunters and fishermen. Their food was generally roasted or broiled, as they did not relish anything that was boiled or stewed, except crabs. At their meals they commonly used two mattatous, or tables, one for the cassada or cassava, which was their bread, the other for the fish, fowls, birds, crabs, pimentado, and other articles. The pimentado was made of the juice of the manioc, which they boiled, and in which they infused a quantity of pimentado, pounded, with the juice of lemon or some other acid. The mattatou served for plate as well as table, and was open to all comers; for whoever entered the house at meal-time had, by immemorial custom of the Caraibs, a right to squat down and partake of the repast. No one was forbidden, and this custom was so well understood as to render it unnecessary to invite any one to eat. They never gave invitations. They stooped on their haunches, like monkeys, round their mattatou, and ate with surprising appetite, without speaking a single word. When they had finished their meals they rose with as little ceremony as they used in squatting down. Those who were thirsty refreshed themselves with water or other beverage; some smoked, others lounged in their hammocks, and a group or party sometimes engaged in conversation. The women waited on the men, but were never suffered to eat with them; they were obliged to dine with the girls and the young children in the kitchen. Thither, as soon as the men had dined, they removed the mattatous and the provisions which remained. While the mothers arranged their dinners in the kitchen, the girls swept the carbets where the men had eaten; wives, daughters, and young children then squatted round the mattatous and discussed their contents. The manioc, of which the cassava or cassada is made, was a great article of food among the Caraibs.

The Caraibs seem to have been the most expert of all the savage inhabitants of America in maritime affairs. They had two sorts

of vessels for performing their voyages between St. Vincent's, Dominica, Guadaloupe, and Martinico. One kind was called bacassas, with three masts and square sails; the others, called pirogues, had only one mast, and were about thirty feet long by four and a half in the middle. They were elevated at the ends, where they were about fifteen inches wide. Eight or nine seats were made in them of planks, not sawed, but split out and made smooth. About eight inches behind each seat was a brace of wood, about the size of a man's arm, fastened to each side of the vessel, and, being higher than the seat, served to support the rowers sitting on the benches. The edges of the pirogues had holes in them through which cords of maho were inserted, and by these ropes their hammocks, provisions, and various other articles were suspended.

The bacassa was about forty-two feet long, and seven feet wide in the middle. The head was raised and pointed nearly like that of a pirogue, but the stern was flat and cut into a poop. Their earthenware, and various other articles, show that the monkey was an object of imitation, if not of veneration, among the Caraibs. They had awkward figures of monkeys at the stern of several of their vessels. These they painted black, white, and red. The bacassas had seats like those of the pirogues. The vessels of the Caraibs were built of the West India cedar, which is scarcely inferior to the mahogany in beauty, and grows to a prodigious size. One of them made the keel of a vessel. It was felled with immense labor, hewn to a proper degree of thickness, well wrought, and made very smooth; and, if any addition to the height of the sides was required, planks were added to them. This operation was performed by means of sharp hatchets made of flint. The Caraibs had not the saw, nor had they invented the rudder. The steersman sat astern, and steered with a paddle which was fully a third longer than the common-sized paddles used in rowing. The paddle was made in the shape of an oven-shovel, five or six feet long; the handle comprised about three-fourths of the length; it was round. The broad part was about eight inches wide and an inch and a half thick in the middle, but it was tapered to about six lines in thickness at the edges. Two grooves were cut to the bottom of the paddle, which seemed to mark the course of the handle through the broad part. On the end of the handle was sometimes fastened a transverse piece like the handle of a shovel, which served to hold when steering. The Caraibs made use of the paddles to row with as well as to steer, but they sat with their faces towards the prow of the vessel.

Some of the bacassas had topmasts, and sometimes the Caraibs

had fleets of twenty or thirty sail of the bacassas and pirogues out at a time.

The surf breaks with great violence on the coasts of the islands formerly owned by the Caraibs, and they were obliged to draw their vessels ashore. The hauling them ashore and again launching them into the water required much strength and art. On the windward side of some of the islands of the Caraibs seven enormous waves break on the shore successively, then a calm for a brief time intervenes between the next series. The last three waves are the largest. Amidst these waves the Caraibs land and draw their vessels ashore, fix them on stones placed for that purpose. When they re-embark they deposit all their goods, their wives and children, in the boat. The women and children sit in the middle of the bottom of the boat, the men range themselves alongside, each against his seat, where his paddle is placed. When the great waves break on the shore, and the steersman sees the critical moment, he gives a shout, and the boat in a moment is launched. The men spring into their boat, the steersman last, and paddle with all their might, but in a slanting or transverse direction. The boisterousness of their seas makes them skilful navigators. They sailed among the West India islands, often visiting Hayti or Hispaniola, which was no inconsiderable voyage. One of the principal reasons of Columbus for supposing there was some country westward of Europe was grounded on the fact of his having seen the bodies of some copper-colored men floating on the coast of the Island of Madeira. That these bodies could not have floated all the way from America is certain. There is no current to have carried them there; or, if there had been a current, the bodies would have been decayed or been devoured by fishes long before they could have arrived at so great a distance. It is more reasonable to suppose that some adventurous Caraibs, on a voyage of discovery, or driven into unknown seas by some tempest or hurricane, were lost on the coast of Madeira; for that island, at certain seasons of the year, is enveloped in an almost impenetrable haze, which renders it nearly invisible till a vessel comes in contact with the shore. Such a voyage would not have been much more extraordinary than some of the voyages the Caraibs made to the westward. They were well acquainted with the Island of St. Domingo, and probably with the whole Gulf of Mexico. The Cacique Caunabo, who was taken by Columbus at the gold-mines of Cebao in St. Domingo, and sent by him prisoner to Spain, was a Caraib who had advanced himself to a command in that island by his warlike qualities and abilities.

Ornaments made of the metal called caracoli were exclusively appropriated to the men. The metal called caracoli came from the South American continent, and has been supposed to be a simple metal, but no one except the Indians could ever find it, therefore many people have been of opinion it was a composition made by them. The English and French jewelers have attempted to make caracoli, but they have never been able to arrive at an exact imitation of it, for the caracoli of the Caraibs appears like silver covered over with some inflammable or rather inflamed substance, and the radiance and brilliance of it is matchless; nor will it tarnish, although it lie ever so long in the earth or in the sea. The nearest the European jewelers can approach this beautiful metal is by mixing six parts of fine silver, three parts of purified or refined copper, and one part of fine gold, but it is not equal to the Indian caracoli.

The caracolis which the Caraibs made were in the form of crescents of different sizes, which were adapted to the situations where they were worn. They were suspended by small chains of the same metal fastened near each end of the crescent, which had a loop or hook in the middle for the purpose of fastening it. A full-dressed Caraib wore one in each ear, which was about two and a half inches long. Those who had no chains suspended them by a cotton thread, which was passed through the centre of the crescent, the metal of which was about the thickness of a sixpence piece. Another caracoli of the same size was attached to the gristle which separates the nostrils, and hung on the mouth. The under part of the lower lip was pierced, and thence hung another caracoli about a third larger than the others, which reached half way down the neck. In the fifth and last place they had one six or seven inches long, which was encased in a small board of black wood, perhaps ebony, and shaped into a crescent. This was fastened around the neck by a small cord, and fell upon the breast. When they did not wear the caracoli they put sticks in their ears, noses, and lips, to prevent the closing of the holes. They had small green stones which they used as amulets, and sometimes inserted in the bored places, instead of the sticks. Instead of sticks and stones, however, they sometimes inserted parrot-plumes or other feathers, red, blue, green or yellow, which made mustachios ten or twelve inches long on each side of the mouth, both above and below it. They had others in their ears, and thus made themselves the most grotesque figures in the world. They had the habit of sticking the hair of their children full of feathers of different colors, which was done very prettily, and gave the children a handsome appearance and air.

They made of reeds, or the fibres of the latanier, baskets of various forms and sizes, painted of various colors, and worked them into apartments or squares. After they had determined upon the size of the basket they braided their reeds into squares or compartments. Those for the close hampers were braided in the closest manner. After the outside of the basket was finished they made a lining in the same manner and of the same kind of materials. Between the outside and the lining they put leaves of the cache-bou, or wild plantains, which were withered in the sun, or over the fire, and thus rendered very strong and tough. The leaves were fitted with so much nicety and exactness that the paniers would hold water as well as any wooden vessel.

The Caraibs were well acquainted with the medicinal virtues of many trees and plants. With the toulola they used to cure the wounds made by poisoned arrows. For this purpose they took the fresh-dug roots and made a partisan of it which was administered to the wounded person ; and it possessed the power of expelling the poison from the vitals. Cataplasms of the bruised root were also laid on the wounds, whence the poison was soon extracted. But it was necessary the remedy should be speedily applied, for the poison of the manchinell operates rapidly. The parts round the wound soon perish, and, if the poison finds its way into the bloodvessels, it always proves mortal. This noble plant, which was called toulola by the Caraibs, is called arrow-root by the English and *herbe aux fleches* by the French, because of its being so powerful an antidote to the poisoned arrows. It is now cultivated and makes some of the finest flour. Few of the productions of nature are so nutritive.*

The Caraibs raised cotton-wool on the common cotton-shrub of the island, but they also gathered cotton of the great cotton-tree which they called mahot, and made thread of it. The plantains they stripped into fibres and made cloth of them. The bark of the white mangle-tree they also spun into a kind of thread. A variety of articles were made from the fibres of the prickly and cabbage-palm, which they made into a kind of hemp. From the leaves of those trees they made baskets, brooms, hammock-like nets, bags, and many other utensils ; these articles were made pliant by means of fire.†

* If the arrow-root was so efficacious in curing wounds made by poisoned arrows, might it not prove an antidote against other poisons ?

† The use of the palm-tree by the Caraibs for the manufacture of various articles four hundred years ago has recently been adopted by the people of Florida, and considered as a new industry.

The Caraibs were cruelly destroyed, chiefly by the French. Such of them as were found in St. Kitts were massacred while the island was possessed jointly by the English and French. The French destroyed or expelled them from Martinico and Guadalupe because, after they began their settlements in these islands, the Caraibs sometimes murdered stragglers. After many contests the remnants of the Caraibs were driven to Dominica. Those in St. Vincents were sometimes employed by the French against the English and by the English against the French, until they were nearly exterminated. The remnants of that much-abused and injured people in Dominica are said to amount to about thirty families at the present time (1817). *

CHAPTER XXIX.

The Mummies of Tennessee and Kentucky; Where Found—How Dressed and How Buried.

IT is well known that when Kentucky was first visited by white men no Indian inhabitants were found in it, though there are found in several portions of it ancient monuments similar to those north of the Ohio river. It is something very remarkable that this region of country should have been uninhabited while Indian settlements were found on all sides of it. The ancient monuments found within it would indicate that the people who built the ancient earthworks of Ohio, Indiana and Illinois also once inhabited the region of Kentucky, and erected the mounds that tell of its ancient occupation. Some of these monuments show as high a degree of civilization, or of progress in the arts, as the magnificent monuments of the Mexicans, and the costumes of the ancient inhabitants of Kentucky indicate a people as refined, and intelligent, and skilled in their domestic manufactures, as will appear from the following accounts of the early discoveries of ancient corpses clothed in the costumes of that day, when, living beings, they dwelt within its borders.

THE MUMMIES OF NORTH AMERICA.

(Moses Fisk, Esq., to the President of the American Antiquarian Society.)

In the year 1810, two bodies, one of a man, and the other of a child six or eight years of age, were dug up in Warren County, in

* Taken from an account of the Caraibs, communicated to the American Antiquarian Society by William Sheldon, Esq., of the Island of Jamaica, and corresponding member of the Society.

the State of Tennessee, wrapped in deer-skin,* and clothes of a singular texture, some of linen and some of tree-bark twine and feathers, with other articles, chiefly about the child, in a state of preservation like mummies, retaining their nails and hair, with their skins entire, though decayed, discolored and tender. I speak of the man from information, he having been reburied before I visited the place. Their flesh seems to have dried and wasted away by a kind of evaporation. They lay in a chamber half way up a steep hill, under a large projecting roof of rocks, buried a yard deep in a bed of dry chalk, which contains a strong mixture of copperas, alum and nitre, and I believe, of sulphur.†

There were ancient habitations in the neighborhood, but no modern dwellings belonging to the natives, within several days' journey. Most of the caves, so numerous in this calcareous country, were used by that primitive nation for sepulchres, in which various relics are found, such as bows and arrows, poles cut off with flint stones, clay ware, fishing-nets, clothes, mats, fragments of baskets, differently preserved, according to the state and qualities of the circumambient air and earth.

The basket used as a coffin for the child, made of split cane,‡ and now in my possession, appears to have been wrought without the help of an edged tool, though of good workmanship.

And, finally, as the variety of articles buried with the bodies, in particular that of the child, announces superior rank, we should, from this circumstance, naturally expect, had they been members of any tribe now in the country, to have found, if anything, a few silver or other metallic ornaments upon them, instead of ingenious feather clothes, fans, and belts, or if there had been a belt, it would have been of wampum.

From the immense number of their dwellings, as well as from their numerous public works, we may compute their residence here at several centuries. But whether less or more, it is probably a full millenium, certainly half an one, since their extinction.

* These deer-skins, in many places where they are mentioned, are what is commonly known as *buckskin*, viz., dressed deer-skins. These dressed skins are exactly the same in appearance, quality and color, as the chamois-skins sold by druggists.

† Was this person buried or deposited in a cave ("chamber") under a projecting rock, where the earth accumulated over it; or was he buried "three feet" below the surface of the cave or "chamber"? It was the custom of some Indians to deposit their dead in caves.

‡ The outside of the cane is split from the stalk, and made by the Indians into baskets of various forms. The strips of cane are often dyed different colors. Some of these baskets are admirably made.

Nothing satisfactory, as far as I can ascertain, is gathered from the modern Indian, about them, though these tribes have been in possession of the country for ages.

It is to be regretted that these ancient ruins and relics have been exposed to so much depredation. Valuable articles are *lost* by being *found*. The finest specimen of statuary that I have heard of in the country was knocked to pieces, to ascertain what sort of stone it was made of. It was the bust of a man, holding a bowl with a fish in it, and was constructed of a piece of marble.*

Dr. Mitchell, of New York, communicated the following to the American Antiquarian Society, August 24, 1815:

I offer you some observations on a curious piece of American antiquity, now in New York. It is a human body, found in one of the limestone caves of Kentucky. It is a perfect exsiccation; all the fluids are dried up. The skin, bones, and other firm parts are in a state of entire preservation.

In exploring a calcareous chamber in the neighborhood of Glasgow, for saltpetre, several human bodies were found, carefully enwrapped in skins and cloths. They were inhumed below the floor of the cave, *inhumed*, and not lodged in catacombs. The outer envelope of the body is a deer-skin, probably dried in the usual way, and perhaps softened before its application by rubbing. The next covering is a deer-skin, the hair of which had been cut away by a sharp instrument resembling a hatter's knife. The remnant of the hair and the gashes in the skin nearly resembled a sheared pelt of beaver. The next wrapper is of cloth made of twine, doubled and twisted. But the thread does not appear to have been formed by the wheel nor the web by the loom. The warp and filling seem to have been crossed and knotted by an operation like that of the fabrics of the northwest coast and of the Sandwich Islands.

The innermost tegument is a mantle of cloth, like the preceding, but furnished with large brown feathers, arranged and fastened with great art, so as to guard the living wearer from wet and cold. The plumage is distinct and entire, and the whole bears a near similitude to the feathery cloaks now worn by the nations of the northwestern coast of America.

The body is in a squatting posture, with the right arm reclining forward, and its hand encircling the right leg. The left arm hangs down, with the hand inclined partly under the seat. The indi-

* By Moses Fisk, Esq., of Hilham, Tenn., April 8, 1815. In "Antiquities of the West," by Caleb Atwater.

vidual, who was a male, did not probably exceed the age of fourteen at his death. There is a deep and extensive fracture of the skull, near the occiput, which probably killed him. The skin has sustained little injury; it is of a dusky color, but the natural hue cannot be decided with exactness from its present appearance. The scalp, with small exceptions, is covered with a sorrel or foxy hair. The teeth are white and sound. The hands and feet, in their shrivelled state, are slender and delicate.

There is nothing bituminous or aromatic in or about the body, nor are there bandages around any part. Except the several wrappers, the body is totally naked. There is no sign of a suture or incision about the belly, whence it seems that the viscera were not removed.

The information we derived from Messrs. Cassedy and Miller, of Tennessee, relative to the human bodies found in a copperas cave, near the Cany Branch of the Cumberland River, was very curious (*Medical Repository*, vol. xv., p. 147). Pieces of the cloth which enwrapped them are now preserved in Mr. Scudder's museum, and an exsiccated foot is also there. One piece of the fabric is plain, and the other decorated with feathers.

Since that time other discoveries have been made. Thomas B. Moore, Esq., during the year 1814, sent to New York an entire body found in a salt-petrous cave in the neighborhood of Glasgow, in Kentucky. This was in the state of a dried preparation, in a squatting posture, with the right hand encircling the knee. It was wrapped in deer-skins and artificial cloths. The latter are of two kinds—plain, and decorated with feathers. These pieces of antiquity were described in a letter written by Dr. Mitchell to Mr. Burnside.

The fabrics accompanying the Kentucky bodies resemble very nearly those which encircled the mummies of Tennessee. On comparing the two sets of samples, they were ascertained to be as much alike as two pieces of dimity or diaper from different manufactories.

Other antiquities of the same class have come to light. Mr. Gratz, of Philadelphia, the proprietor of the vast cavern figured and described in the *Medical Repository*, vol. xvii., has very obligingly sent to Dr. Mitchell other specimens of cloths, things made of these cloths, and raw materials, dug out of that unparalleled excavation. A parcel of these articles, now in Dr. Mitchell's possession, was accompanied with the following note:—"There will be found in this bundle two moccasins in the same state they were when dug out of the Mammoth Cave, about two hun-

dred yards from its mouth. Upon examination it will be perceived that they are fabricated out of different materials ; one is supposed to be made of a species of flag, or lily, which grows in the southern part of Kentucky ; the other of the bark of some tree, probably the *pappaw*.*

There are also in this packet a part of what is supposed to be a *Kinnekinic* pouch, two meshes of a fishing-net, and a piece of what is supposed to be the raw material, and of which the fishing-net, the pouch and one of the moccasins were made, all of which were dug out of the Mammoth Cave, *nine or ten feet under ground*; that is, below the surface or floor of the cavern. You will find likewise two Indian beads discovered in a cave in the vicinity of the Mammoth Cave.

We have also an Indian bowl, or cup, containing about a pint, cut out of wood, found also in the cave ; and lately there has been dug out of it the skeleton of a human body enveloped in a matting similar to that of the *Kinnekinic* pouch.

This matting is substantially like those of the plain fabric from the copperas cave of Tennessee and the saltpetrous cavern near Glasgow.'

Mr. John H. Farnham, in his description of the Mammoth Cave communicated to the American Antiquarian Society the following :

"The greatest curiosity, however, remains to be described. It was, in the language of the people, an 'Indian mummy.' Mummies, however, or embalmed bodies, are not found in America. This was an Indian woman whose flesh and muscles had been dried to the bones and kept in so great a state of preservation that many of the features were distinctly discernible—the shape and conformation of the ears were perfectly preserved, and the hands, fingers, and toe-nails ; the teeth all in their proper place ; the lips, though dried, were yet coral in their appearance ; much of the hair was perfect, and the whole carcass and its mode of burial have furnished to all who have seen it a copious topic of admiration and conjecture. Her posture, as she was found, precisely resembled most of the Indian skeletons that have at different times been found in the western country. She was buried in a squatting form, the knees drawn up close to the breast, the arms bent, with the hands raised and crossing each other about the chin, in a close position, as if she would guard her vital parts from injury. She was found in this posture inclosed in a couple of deer-skins,

* The Indians (Natchez and some others of the Arkansas), made cloth out of *nettles* and out of the bark of the *mulberry tree*.

which were bound together by a ligament of braided bark, a species of manufacture exclusively Indian. There were found, likewise, buried with her many ornamental articles, such as birds' feathers, colored and stained in various ways; beads formed of dried berries; the skin and rattles of a snake; a fawn's foot in a state of perfect preservation, and many other articles, mostly appropriate to feminine use, and which denoted her to have been a woman of distinction. No article was found that denoted the slightest commerce with the Europeans, and the general opinion of those who have examined this carcass, and seen other Indian skeletons, is that she must have lain there several centuries. The carcass was very light, though the dried flesh and entrails were preserved, not weighing more than twelve or fourteen pounds. The woman was nearly six feet high. The color of the carcass was that of dried tobacco, of a yellowish hue. It was found three months since* under some rocks in a neighboring cave by some workmen."

The following, from a letter of Charles Wilkins to the A. A. Society, dated Lexington, Kentucky, October 2, 1817, has more particulars regarding the mummy precedingly described by Mr. Farnham:

"I received information that an infant of nine or twelve months old was discovered in a saltpetre cave in Warren County, about four miles from the Mammoth Cave, in a perfect state of preservation. I hastened to the place, but to my mortification found that upon its being exposed to the atmosphere it had fallen into dust, and that its remains, except the skull, with all its clothing, had been thrown into the furnace. I regretted this much, and promised the laborers to reward them if they would preserve the next subject for me. About a month afterward the present one was discovered, and information given to our agent at the Mammoth Cave, who sent immediately for it and brought and placed it there, where it remained for twelve months. It appears to be the exsiccated body of a female. The account I received of its discovery was simply this: It was found *at the depth of about ten feet* from the surface of the cave, bedded in clay, strongly impregnated with nitre, placed in a sitting posture, encased in broad stones standing on their edges, with a flat stone covering the whole. It was enveloped in coarse cloths, the whole wrapped in deer-skins, the hair of which was shaven off in the manner in which the Indians prepare them for market. Enclosed in the stone coffin were the working utensils, beads, feathers, and other ornaments of

* There is no date to the article as published in "American Antiquities."

dress, which belonged to her. The body was in a state of much higher perfection when first discovered, and continued so as long as it remained in the Mammoth Cave, than it is at present, except the depredation committed on the arms and thighs by the rats, many of which inhabit the cave. After it was brought to Lexington and became the subject of great curiosity, being much exposed to the atmosphere, it gradually began to decay, its muscles to contract, and the teeth to drop out, and much of its hair was plucked from its head by wanton visitants.

The cave in which the mummy was found is not of great extent, being not more than three-quarters of a mile in extent, its surface covered with loose limestone from four to six feet deep before you enter the clay impregnated with nitre. It is of easy access, being about twenty feet wide and six feet high at the entrance. It is enlarged to about fifty feet wide and ten feet high almost as soon as you enter it. This place had evident marks of having once been the residence of the aborigines of the country from the quantity of ashes and the remains of fuel and torches made of the reed, etc., which were found in it."

It is worthy of notice that the depth of ancient graves vary, accordingly as the earth has accumulated or diminished over them. Mr. Fisk says the regular Indian grave of East Tennessee was twelve or eighteen inches deep, but this mummy of which Mr. Wilkins speaks was found about ten feet below the *present* surface of the cave (probably Horse Cave), and the surface of the cave was covered with loose limestone to the depth of four to six feet before the clay impregnated with nitre was reached. It thus appears that this mummy was from four to six feet beneath the original surface. From the description of it it is evident that this mummy was regularly and intentionally buried there. From all these facts some idea may be formed of the many ages it has remained there. It is not improbable that if careful excavations were made to a depth six feet below the original surface of the cave, the explorer would make some interesting discoveries and very valuable contributions to the earliest history of this continent.

CHAPTER XXX.

Dr. Samuel L. Mitchell on the Varieties of the Human Race—The Settlement of America—The High Rock Spring of Saratoga an Evidence of the Antiquity of Man—Lewis H. Morgan on Indian Migration.

DR. SAMUEL L. MITCHELL, of New York, contributed several articles to the collection of the American Antiquarian Society, of which Mr. Caleb Atwater was President. The following quotations are from these articles as published in "Antiquities of the West:"

"NEW YORK, January 13, 1817.

It was only since I became a member of the American Antiquarian Society that I began to investigate in earnest the history of the people who inhabited America before the arrival of our forefathers.

My opportunities while I was Senator in Congress were very favorable to an acquaintance with the native tribes. By the decision of the Senate I was for several years a sort of permanent chairman of the Committee on Indian Affairs. I soon became convinced that the opinions of the European historians and naturalists were so full of hypothesis and error that they ought to be discarded. My faith in the transatlantic doctrines began to be shaken in 1805, when my intercourse with the Osages and Cherokees led me to entertain of them very different opinions from those I had derived from the books I had read.

"NEW YORK, March 31, 1816.

The view which I took of the varieties of the human race in my course of Natural History delivered in the University of New York differs in so many particulars from that entertained by the great zoologists of the age that I give you for information a summary of my yesterday's lectures to my class.

I denied in the beginning that the American aborigines were of a peculiar constitution, of a race *sui generis*, and of copper-color.

The indigenes of America appear to me to be of the same stock and genealogy with the inhabitants of northern and southern Asia. The northern tribes were probably more hardy, ferocious, and warlike than those of the south. As the Tartars have overrun China, so the Aztecs subdued Mexico. As the Huns and Alans desolated Italy, so the Chippewas and Iroquois prostrated the populous settlements on both banks of the Ohio.

The surviving race in these terrible conflicts between the different nations of the ancient residents of North America is evidently that of the Tartars. This opinion is founded upon four considerations:

1st. The similarity of physiognomy and features. His Excellency M. Genet, late minister plenipotentiary from France to the United States, is well acquainted with the faces, hues, and figures of our Indians and of the Asiatic Tartars, and is perfectly satisfied of their mutual resemblance. Monsieur Cazeaux, consul of France to New York, has drawn the same conclusions from a careful examination of the native men of North America and of northern Asia.

Mr. Smibert, who had been employed, as Josiah Meigs, Esq., now Commissioner of the Land Office in the United States, relates, in executing paintings of Tartar visages for the Grand Duke of Tuscany, was so struck with the similarity of their features to those of the Narraganset Indians that he pronounced them members of the same great family of mankind.

Within a few months I examined over and again seven or eight Chinese sailors who had assisted in navigating a ship from Macao to New York. The thinness of their beards, the bay complexion, the black, lank hair, the aspect of the eyes, the contour of the face, and, in short, the general external character, induced every one who observed them to remark how nearly they resembled the Mohegans and Oneidas of New York.

Sidi Mellimelli, the Tunisian envoy to the United States in 1804, entertained the same opinion on beholding the Cherokees, Osages, and Miamis assembled at the city of Washington during his residence there. Their Tartar physiognomy struck him in a moment.

2d. The affinity of their languages. The late learned and enterprising Professor Barton took the lead in this curious inquiry. He collected as many words as he could from the languages spoken in Asia and America, and he concluded, from the numerous coincidences of sound and signification, that there must have been a common origin.

3d. The existence of corresponding customs. I mean to state that at present that of shaving away the hair of the scalp from the fore part and sides of the head, so that nothing is left but a tuft or lock on the crown.

The custom of smoking the pipe on solemn occasions to the four cardinal points of the compass, to the heaven and the earth, is reported, upon the most credible authority, to distinguish equally the hordes of the Asiatic Tartars and the bands of the American Sioux.

4th. The kindred nature of the Indian dogs of America and the Siberian dogs of Asia.

II. The exterminated race in the savage intercourse between the natives of North America in ancient days appears clearly to have been that of the Malays.

I reject, therefore, the doctrine taught by the European naturalists that the men of western America differ in any material point from the men of eastern Asia.

Having thus given the history of these races of man, spreading so extensively over the globe, I consider the human family under three divisions.

First, the *tawny* man, comprehending the Tartars, Malays, Chinese, the American Indians of every tribe, Lascars, and other people of the same cast or breed. From these seem to have proceeded two remarkable varieties, to wit:

Secondly, the *white* man, inhabiting naturally the countries in Asia and Europe, situated north of the Mediterranean Sea, and in the course of his adventures, settling all over the world. Among these I reckon the Greenlanders and Esquimaux.

Thirdly, the *black* man, whose proper residence is in the regions south of the Mediterranean, particularly towards the interior of Africa. The people of Papua and Van Dieman's Land seem to be of this class.

A late German writer, Professor Vater, has published at Leipzig a book on the population of America. It is, in reality, a display of Humboldt's opinions on the subject. He lays great stress on the tongues spoken by the aborigines, and dwells considerably on the unity prevailing in the whole of them, from Chili to the remotest districts of North America—whether of Greenland, Chippewa, Delaware, Natick, Totouaka, Corea, or Mexican. Though ever so singular and diversified, nevertheless the same peculiarity obtains among them all, which cannot be accidental, viz., 'the whole sagacity of the people, from whom the construction of the American languages, and the gradual invention of their grammatical terms are derived, has, as it were, selected one object, and over this diffused such an abundance of forms, that one is astonished, while only the most able philologist, by assiduous study, can obtain a general view thereof,' etc. In substance, the author says, that through various times and circumstances this peculiar character is preserved. Such union, such direction or tendency, compels us to place the origin in a remote period, when an original tribe or people existed whose ingenuity and judgment enabled them to excogitate such intricate formations of language as could not be

effaced by thousands of years, nor by the influence of zones and climes. Mr. Vater has published a large work entitled 'Mithridates,' in which he has given an extensive comparison of *all the Asiatic, African, and American languages*,* to a much greater extent than was done by our distinguished fellow-citizen, Dr. Barton. He concludes by expressing his desire to unravel the mysteries which relate to the new and the old continents, at least to contribute the contents of his volume towards the commencement of the structure, which, out of the ruin of delacerated human tribes seeks material for a union of the whole human race.

What this original and radical language was has lately been made subject of inquiry, by the learned Mr. Mathieu, of Nancy, France. But what need is there of this etymological research and grammatical conjecture? The features, manners and dress distinguishable in the North American natives of the high latitudes prove the people to be of the same race with the Samoides and Tartars of Asia. And the physiognomy, manufactures and customs of the North American tribes of the middle and low latitudes, and of South America, show them to be nearly akin to the Malay race of Australasia and Polynesia.

All this may be considered as correct, as far as Tartars and Malays are concerned, but there is another part of the American population which deserves to be particularly considered. I mean the emigrants from Lapland, Norway and Finland, who, before the tenth century, settled themselves in Greenland, and passed over to Labrador. It is recorded that these adventurers settled themselves in a country which they called *Vinland*. This was probably a new settlement, so called in honor of *Finland*, the region whence the adventurers came. Or, if it were a *land of vines*, the proof is the stronger of their southern encampment. Thus the northeastern lands of North America were visited by the hyperborean tribes from the northwesternmost climates of Europe, and the northwestern climes of North America had received inhabitants of the same race from the northeastern regions of Asia. .

My opinion is that the antiquities of our country were never presented to us in so interesting and advantageous an aspect as at present. Their number and their description is more attended to than heretofore. There are more good observers, and therefore we are enabled to form more correct conclusions. At the same time it must be remembered that the vestiges of the aborigines, their manners, their languages and their arts, are becoming rapidly

* All the Asiatic, African, and American languages! Bold assertion.

more and more faint, and many of them will soon vanish altogether out of sight. It therefore becomes the Society and all its members to employ every moment of time, and every opportunity that can be found, to delineate them as they are, and to save them from oblivion. My observations led me several years ago to the conclusion that the two great continents were peopled by similar races of men ; and that America, as well as Asia, had its Tartars in the north and its Malays in the south. If there were but historians, we should find a striking resemblance. America has had her Scythians, her Alans, and her Huns ; but there has been no historian to record their formidable emigrations, and their barbarous achievements. How little of past events do we know !

There is a class of antiquities which present themselves on digging from thirty to fifty feet below the present surface of the ground. They occur in the form of firebrands, split wood, ashes, coals, and occasionally of tools and utensils, buried to those depths by the alluvion, and have been observed, as I am informed, in Rhode Island, New Jersey, Maryland, North Carolina, and doubtless in other places. I have heard of some in Ohio. I wish the members of the Society would exert themselves with all possible diligence to ascertain and collect the facts of this description. They will be exceedingly curious both to the geologist and to the historian. After such facts shall have been collected and methodized, we may, perhaps, draw some satisfactory conclusions."

Of this last class of antiquities, Saratoga in the State of New York gives a very interesting example.

The High Rock Spring at Saratoga derives its name from the cone-shaped rock, about three feet high, which the water of the spring has formed by the deposits it has made in many centuries. The orifice at the summit of the rock, through which the water originally issued, is about eight or ten inches in diameter (as well as I can remember). In the year 1866, the proprietors of the spring, "convinced that by stopping the lateral outlet they could cause the waters to issue again from the mouth of the rock, they therefore employed a number of men to undermine the mound (rock), and with a powerful hoisting-derrick to lift it off and set it one side.

Just below the mound were found four logs, two of which rested upon the other two at right angles, forming a curb. Under the logs were bundles of twigs resting upon the dark-brown or black soil of a previous swamp. Evidently some ancient seekers after health had found the spring in the swamp, and, to make it more convenient to secure water, had piled brush around it and then laid down the logs as a curb.

The rock, which weighed several tons, is composed of tufa and carbonate of lime, and was formed in the same manner as stalactites and stalagmites are formed. As the water flowed over the logs the evaporation of a portion of the carbonic acid gas caused the deposition of an equivalent quantity of insoluble carbonate of lime, which, layer by layer, built up the mound. A fragment of the rock which I possess contains leaves, hazel-nuts, and small shells, which, falling from time to time upon it, were encrusted and finally imprisoned in the stony mass.

Below the rock the workmen followed the spring through four feet of tufa and muck; then they came to a layer of solid tufa two feet thick; then one foot of muck, in which they found another log. Below this were three feet of tufa; and there, seventeen feet below the apex of the mound, they found the embers and charcoal of an ancient fire.*

In making the Portland Canal, from Louisville to Portland below the rapids of the Ohio River, a similar relic was found, viz.: Ashes, coals, and partly-consumed logs, evidence that a fire had been made there at some very remote period, when the banks of the Ohio were much lower than at present. The average depth of the excavation of the canal was thirty-three feet. But I know not the depth at which this evidence of ancient occupation was found.

Whether the Indian family reached North or South America first, on the assumption that it had an Asiatic origin, we are left to a choice of probabilities. It is plain, however, that the physical considerations and the type of men in northeastern Asia point to this section of Asia as the source, and to the Aleutian Islands as the probable avenue of this antecedent emigration. This is no new hypothesis. A belief in his Asiatic origin was one of the first conclusions which followed the discovery of the Indian, and a knowledge of his physical characteristics. Subsequent investigations have strengthened the grounds upon which this belief was based.

It will furnish a not inappropriate conclusion to these articles to relate briefly the facts and reasons which support the inference of a derivation of the Indian family from northwestern Asia.

In the first place the number of distinct types of mankind in Asia, contrasted with the single type, aside from the Eskimo, existing in America, show conclusively that the Asiatic continent has been occupied by man much the longer of the two. The striking

* "Saratoga and How to See It," by Dr. R. F. Dearborn.

affinities in physical characteristics between the Mongolian and Tungusian stocks of Asia and the Indian stocks of America, and the near approach of other Asiatic stocks to both, seem to compel us to assume an Asiatic origin for the American Indian, unless the independent creation of man in America is assumed. Secondly, there are two existing avenues between the two continents, one of which, across the Straits of Behring, has been actually proven to be practicable by the Eskimo migration, and the other, by the Aleutian Islands, is rendered a probable route by the fact that most of these islands are now inhabited by a people of common descent, who have spread from island to island. Whether the Eskimo had been forced northward in Asia by the pressure of circumstances is immaterial, since it was necessary that they should be hyperborean in their habits to render possible their transit across the icy strait, which is about fifty miles wide where it is narrowest.* But it was not necessary that the ancestors of the American aborigines should have become hyperboreans in Asia to explain their emigration to America. The Aleutian Islands furnish a possible as well as a much more probable route. It is not to be supposed that it was a deliberate migration in members which brought the Ganowanian† family to America if they came from Asia. The natural obstacles presented to a transit by the Aleutian Islands lead to the inference that the migration must have been purely accidental, and limited, it is not unlikely, to a canoe-load of men and women. It may have been repeated at several different times in different ages, under similar circumstances, but limited in each case to inconsiderable numbers. If such accidental immigrants chanced to be of different stocks, the later ones would make but a slight impression upon the first stock that reached America. These islands, the summits of a chain of submarine mountains, stretch continuously and substantially in sight of each other from the peninsula of Alaska to the Cape of Kamtchatka, with the following principal interruptions: The Amoukhta pass, separating two groups of these islands, is

* The Edinburgh Encyclopaedia gives "thirty-nine or forty miles in breadth" in the narrowest part, viz.: From East Cape to Cape Prince of Wales. Three small islands lie in the middle channel of the Straits, the first bearing 26° south-east, twenty-four miles from the eastern promontory; the next, which is the largest, lies six miles farther, in a northeast direction; the third, and smallest, is ten miles distant, *south by east*.

The Encyclopædia Britannica gives thirty-six miles as the width in the narrowest part of the Strait.

† Proposed name for the American Indian family, formed from two words of the Seneca language, signifying *bow and arrow*.

about sixty miles across ; from the island Goreloï to the island of Semisopochnoï is the same distance ; from the latter to Scmitchi Island is about fifty miles, and from the island of Attou to Copper Island—which is much the widest interval between any two islands of the chain—is two hundred and thirty miles ; and from Behring's Island, the last and one of the largest of the series, to Cape Kamtchatka on the Asiatic coast, is one hundred miles.* A migration by the way of these islands is not improbable, and there are two facts which create a presumption in favor of the occurrence of such a migration by the mere accidents of the sea before the lapse of many ages after Asia was overspread with inhabitants. The first is the ocean stream of the Asiatic coast—the counterpart of the Gulf stream of North America—which, rising in the South Pacific and flowing northward, skirts the shores of the Japanese and Kurulian Islands nearly to the cape of the Kamtchatka, where it is deflected to the eastward and divides into two streams. One of these, following the coast, enters Behring Strait, but the other, the main stream, crosses the Pacific eastward along the south shores of the Aleutian Islands to Alaska, where it turns down the American coast. It is not entirely lost until it reaches the shores of California. This ocean stream might easily bear off canoemen, once thrown upon its current, from the Kurulian Islands, and from the coast of Asia to the Aleutian Islands. After Attou Island, which is but four hundred and forty miles from the nearest point in Asia, was gained, the problem of reaching Alaska would be substantially solved.† It would thus seem that an in-

* "Map of Alaska and the Aleutian Islands, U. S. Coast Survey Office." In these islands, when first discovered, more than sixty families were found whose language had no relation either to that of Kamtchatka or to any of the oriental languages of Asia. It is a dialect spoken in the other islands adjacent to America, which seems to indicate that they have been peopled by the Americans, and not by the Asiatics. They have no wood on these islands besides that which is floated to them by the sea, and this wood seems to come to them from the south, for the camphor-tree of Japan has been found on the coasts of these islands.—Rees' Ency. The Fox Islands, a part of the Aleutian, are inhabited by animals from America, such as bear, foxes, beaver, etc.

† From east to west the Aleutian Islands are 1st, Behring, one hundred and four miles long, one hundred and ninety-two from Kamtchatka ; 2d, Copper, twenty-five miles long, east from Behring (distance not given) ; 3d, Attou, sixty miles long one hundred and eighty-eight miles from Copper Island ; 4th, Agattoo, six miles long, twenty miles from Attou ; 5th, Buldyr, six by ten miles, seventy miles from Agattoo. Then come Omnak, Oonalaska, Oonemak, next to Alaska. Neither the *size* nor *distance* from each other of these three last islands are given in the Edinburgh Encyclopædia, from which the preceding has been taken.

strumentality was provided in this ocean stream whereby the American continent might become accessible from Asia in the early ages of the human family. The second fact is the character and position of the Amoor, one of the great rivers of Asia, which stands in nearly the same relation to the northwestern section of that continent that the Columbia does to the northwestern portion of America. This river, from its fisheries, must have attracted inhabitants to its banks at a very early period in Asiatic history. Its occupation would, in due time, have led to boat navigation, to familiarity with the sea, to the exploration and occupation of the adjacent seacoast and islands, and would thus have prepared the way for peopling the Aleutian Islands in the manner stated. It is a striking fact that the Tungusian and Mongolian stocks, the nearest in type of the existing Asiatics to the American aborigines, still hold the Amoor river, upon which they have lived from time immemorial.

In the third and last place, the system of consanguinity and affinity of the several Asiatic stocks agrees with that of the American aborigines. Omitting all discussion of the results of a comparison of systems, it may be stated that the system of the Seneca-Iroquois Indians of New York is identical not only in radical characteristics, but also in the greater portion of its minute details with that of the Tamil people of South India. This identity in complicated and elaborate systems is hardly accidental.*

CHAPTER XXXI.

Captain John Dundas Cochrane's Account of Nishney Kolymsk—Amusements—Cold Weather—Occupations of the People—Animals—Baron Wrangel—Trip to the Fair on the Aniuy—The Yukagiri—The Fortress—The Tchukchi—The Fair—Chess—Tchukchi Reindeer—The Tchukchi Peninsula, Tchukchi.

CAPTAIN JOHN DUNDAS COCHRANE, R. N., made in the years 1820–21, a land journey from Dieppe, in France, to Nishney Kolymsk, on the river Kolyma, the most eastern river of importance of Asia that empties into the Frozen Ocean. He speaks of the Chukches thus: Nishney Kolymsk may be termed a large town in this part of the world, containing, as it does, nearly fifty dwellings, and about four hundred people (or eighty families), which

* "Indian Migrations," by Lewis H. Morgan, in "The Indian Miscellany."

is three times the number of any place between it and Yakutsk (a distance of two thousand miles). It stands on the east side of an island in the Kolyma, about twenty-five miles long, and opposite to the junction of the river Aniuy. Formerly the town was eight miles farther down, but the bleakness of the situation, and its consequent exposure to the northern blasts, induced its removal to its present site, where it is protected from them by a range of hills. The island is covered only with low brushwood, but receives fine timber, which is floated down the river. No cultivation can, of course, be expected in a climate wherein scarcely a blade of grass is to be seen. The horses which do sometimes tarry in the vicinity for a few days' feed upon the tops, stumps, and bark of the bushes, or upon the moss. The inhabitants manage, notwithstanding, with great labor, to feed a couple of cows, though to do this they are obliged to bring the hay eight miles. They are mostly Cossacks, with half a dozen pedlers and three priests, the whole of whom carry on some traffic.

On the morning of my arrival at Nishney Kolymsk, and while at breakfast, I received as a new-year's gift a couple of large fish in a frozen state, weighing each about two hundred pounds.

Baron Wrangel's expedition I found in a state of much forwardness, great exertions having been made in collecting dogs and drivers, and provisions, as well as in making new nartes, or sleds. I learned that he would depart from Kolyma in the month of March, in two divisions, one having for its object the solution of the question regarding the latitude and longitude of the North-east Cape of Asia, and the other a journey due north from the mouth of the Kolyma, in search of a real or supposed continent, or rather the continuation of Asia to where it is imagined by some to join the continent of America. I did not hesitate to volunteer my services, but in consequence of being a foreigner I found my services could not be accepted without special permission of the government. I therefore made up my mind to set out for the fair of the Tchukchi, and to try my fortune in getting a passage through their country, and so cross over Behring Straits for America.

During the months of January and February (1821) we were variously employed, as the nature of the weather would allow, passing the time agreeably and happy enough. Among other things I brought up my journal, and worked some observations for the latitudes and longitudes of Nishney Kolymsk. Sometimes we joined in the amusements of the natives, and visited them in their feasts, which are very numerous, and at which there is a great

consumption of liquor. The ice mountain was, of course, one of our amusements, and our time was far from hanging heavy. I descended it daily during the *fêtes*.

The weather proved exceedingly cold in January and February, but never so severe as to prevent our walks, except during those times when the wind was high; it then became insupportable out of doors. Forty degrees of frost of Reaumur never appeared to affect us in calm weather so much as ten or fifteen during the time of a breeze. Yet to witness the aurora borealis I have repeatedly quitted my bed in these extremes of cold, without shoes or stockings, and with no dress on but a parka, or frock.

To prove that I do not magnify the extremes of cold in that part of the world, I beg to refer to Mr. Sauer's account of Billings's expedition, and the present Admiral Saritcheff's account of the same, when 43° of Reaumur or 74° of Fahrenheit were repeatedly known. I will also add my testimony from experience to the extent of 42°. I have also seen the minute-book of a gentleman at Yakutsk, where 47° of Reaumur were registered, equal to 84° of Fahrenheit. There can indeed be but little doubt that the local situation of the Kolyma, bordering on the latitude of 70°, and almost the most easterly part of the continent of Asia, is a colder one than Melville Island or the centre of the American Polar coast. Okotsk, Idgiga, Yakutsk, Tomsk, and Tobolsk, are considered equally cold and exposed as the mouths of the Lena, Yana, or Kolyma. Even Irkutsk, about the latitude of London, has yearly a frost of 40° of Reaumur, or 58° below the zero of Fahrenheit. However, I soon had reason to consider the coldest day as the finest, because it was then sure to be calm, and afford every excitement to exercise and cheerfulness.

The occupation of the people of this part of the world naturally depends upon the season. Laying in wood for fire, hunting, and trading are the winter occupations, while fishing and fowling are almost the exclusive employment in spring and autumn; summer is generally the building time, the wood for which is generally floated down the Kolyma from Sredne Kolymsk. The women embroider gloves, caps, boots, shoes, and various things in a neat manner. Farther on to the southward they also attend to the breeding of cattle. Fishing, however, may be termed the grand concern, employing, as it does, alike men, women, children and dogs.

Formerly this part of the country was highly productive in furs, the Emperor receiving a tenth of each sort, which has at times amounted to as many as five thousand sables, but nowadays less than so many hundreds. The shores of the Icy Sea are still much

frequented by the white, blue, and red fox, and near the woods valuable sables are still to be met with. In the rivers the vidra, or river-otter, is in much estimation. Upon the whole, however, it appears that the inhabitants look to the Tchuktchi for their winter clothing and most valuable fur trade. The animals of the chase seem to have been forced from the central to the extreme parts of Siberia, and thus the elk, reindeer, and argali, or wild sheep, are rarely met with in the commissariat. There are now more within reach of the few Yukagiri descendants who line the banks of the two Aniuy* and chase these animals beyond the frontiers. Game of the feathered kind is, nevertheless, highly abundant, such as swan, geese, ducks, woodcocks, bustards, and partridges.

Baron Wrangel and his party leaving us on the 27th of February, 1721, I attended him ten miles down the river, when we returned. The baron was escorted by twenty narts and two hundred dogs. Each nart carried about one thousand pounds weight, but in consequence of the early part of the winter having been employed in transporting provisions to the Great Baranov Cape, to the east of the mouth of the Kolyma, they will be enabled to proceed fully laden from that spot, as well round the northeast cape of Asia as to the northward, in search of strange lands; they will also return to Cape Baranov to be again supplied with food, to enable them to regain this place—Nishney Kolymsk.

On the 4th of March I left the Kolyma in company with Mr. Matiushkin, midshipman, and a few merchants whose narts were loaded with tobacco and iron utensils. The weather was fine, there being but 25° of Reaumur of frost, yet we had not gone more than fifteen miles before we were obliged to halt on the banks of a lake, being unable to make out the path from the depth and drift of the snow. Our route lay on the Aniuy, having left to the north the highlands which defend the town of Nishney Kolymsk. I passed the night very tolerably in the snow. My friend was repeatedly obliged to exercise himself during the night, for we were so unfortunately situated that no fire could have been kept in, even had there been fuel. The following day we passed through a thick forest of pines, in the greatest danger of broken heads, going with a velocity almost incredible, and at every descent of a hill dashing up against the trees. Thirteen dogs were provided for me. We made thirty-five miles in this manner, and reached the Little Aniuy, a considerable, rapid, and dangerous river. A charity yourt re-

* The lowest tributaries of the Kolyma.

ceived us for the night, and we fared very well. The lowlands which extend from the Kolyma to the eastward being now passed, we entered upon a more elevated country, and were cheered with meeting and overtaking a great number of sledges, whose owners exhibited the same smiling faces, the result, no doubt, of as sanguine hopes as those of the great merchants of London and Amsterdam on the eve or expectation of a great fair. The river, which has many islands in it, winds a great deal, and exhibits some fine scenery.

The descendants of the Yukagiri inhabit the banks of the two rivers Aniuy, and serve as a neutral nation between the Russians and the Tchukchi. They were formerly a formidable and warlike people. They are now all but extinct as a pure race. They are, in fact, descendants of Russians who have intermarried with them. They are certainly the finest race of people I have seen in Siberia; the men well proportioned, with open and manly countenances; the women are extremely beautiful. What their origin was it is now difficult to say, although they were, doubtless, of Asiatic origin, their features partaking of the Tartar aspect, to say nothing of their enmity to the Tchukchi, while they have a great friendship for the Yakuti, or Tongousi.

The third day we reached an inhabited yourt where many of the merchants awaited us, as they could not go to the fair before a certain time. The wood on the Aniuy is of considerable growth for so northern a situation, but the root has seldom more than twenty inches depth.

On the 8th of March we reached the fortress, the river bordered with the same elevated slate lands on the right and low flat on the left bank. At seven miles on this side the fortress the scenery begins to improve, and the fortress itself may be said to be a most romantic spot. It is distant from the Kolyma one hundred and fifty miles. There are twenty yours, about two hundred people, and a large wooden building, fit for anything but defense. The whole stands upon an island surrounded by elevated and well-wooded hills. There is very little grass, but much moss. The view of the river is exceedingly picturesque, and the fortress is decidedly the most favorable place to reside in I have seen from Yakutsk, a distance of at least two thousand miles.

The inhabitants on the banks of the river are not numerous, and subsist very scantily by hunting, there being few fish in the river. Elk, reindeer, and argali are what the people most depend upon. Formerly they were abundant, but are now much reduced, owing to the peopling of the country by the Russians, who hunt rather to exterminate the breed than to procure subsistence.

Having settled ourselves in a small Yukagir yourt, Mr. Matiushkin and I received a visit from one of the Tchuktchi, a most empty-countenanced and wild-looking savage. He entered the room where we were, tumbled himself down on a stool, smoked his pipe, and then quitted the room without once looking at or taking the least notice either of us or anything about us.

I next day visited their camp, distant about two miles and a half. It consisted of three large and three small tents. The former contained the bulk of the Tchukchi people, and the latter were appropriated to the chiefs and more considerable people. The large tents were disgustingly dirty and offensive, exhibiting every species of grossness and indelicacy, but the smaller were, on the contrary, very neat, clean and warm, although without a fire in thirty-five degrees of frost. Indeed, they were to me almost suffocating, being only eight feet long, five broad, and about three feet high, and contained three or four people huddled together in one bed, which was made of reindeer-skins, and the coverings lined with white foxes. The small tents are made also of the old and hard skins, doubled, so that the hair is both on the inside and the out. A large lamp with whale-oil, or fat, which serves them for a light, communicates also considerable warmth. On entering one of these small dwellings I found the chief and his wife perfectly naked, as was also a little girl, their daughter, of about nine years old; nor did they seem to regard our presence, but ordered the daughter to proceed and prepare some reindeer-meat for us, which she did in that state of nudity by a fire close to the tent. Having informed myself of the savage state in which they lived, I returned to the fortress.

On our return to the fortress the fair was formally commenced by a harangue of the commissaries, declaring the terms, the tax, and the penalties. The fair was held upon the river Aniuy, opposite the fortress. Early in the morning the Tchukchi arrive at the place of barter, and, forming a semicircle towards the fortress, the extremes of which reach to the edge of the ice, depose their furs upon their narts, the owners constantly remaining with them. In the meantime the Russians place their bags and bales of tobacco in the centre of the semicircle, and then begin to parade and visit the Tchukchi, inquiring the prices, etc., by means of an interpreter. The work entirely falls upon the Russian, who drags behind him for many hours two hundred weight of tobacco before he can induce the Tchukchi to barter.

It is ludicrous to stand upon the banks of the river and wait the appointed signal for commencing barter each morning. While

the Tchukchi are quietly sitting on their narts, with their sleeves drawn back and their arms thrust into their bosoms, to keep them warm, the Russians, on the contrary, start pell-mell ; pots, pans, kettles, knives, swords, hatchets, scissors, needles, etc., are rattling in every direction ; priests, officers, Cossacks and merchants, men, women and children, alike fantastically dressed, with articles of traffic, of which tobacco constituted the chief. A few bells, pipes and corals also serve to grace the dresses of the more wealthy and whimsical pedlers.

The fair lasted seven days, which is three more than usual. At length finished, I prepared to depart for Nishney Kolymsk with many thanks to my venerable Yukagir host for all his kindness. I passed the time very agreeably at his house. He was a very good chess-player, and was fond of the game. His manner of playing added another instance to many I have witnessed that there is in various parts of the world little or no difference anywhere in the moving of the pieces. I have played the game with Yakuti, Tongousi, and Yukagir, but the Tchukche laughed at me for such a childish employment of my time. I may remark, as a circumstance relative to the game of chess, and which has repeatedly surprised me, that wherever a people recognize and play it they are infallibly Asiatics. Neither the Tchukchi nor the Koriaks understand anything of it, but all the Kamtchatdales and other Asiatics are familiar with it.

The features of the Yukagiri lead me to suppose them Tartars, and not a race very distinct from the Yakuti. They are, however, almost Russified by intermarriage, and the question of their origin is become difficult. There were at the fair two or three of the Chuanse or Chodynse, a tributary nation inhabiting the country between the two Aniufs and the Anadyr. Their features are also Asiatic.

For the articles which were sold by the Russians the Tchukche brought four or five hundred sea-horse teeth, a few bear-skins, reindeer dresses, and white foxes, and these, with some frozen reindeer-meat, made the whole productions of their own country. The other articles of fur came from a nation on the American continent called the Kargaules, two of whom were at the fair. They bear more nearly the features of the Tchukche than those of the hideous-mouthed inhabitants of Behring Strait, although with a browner or more dirty color. The furs brought and sent by them consist of many thousands of black, brown, blue, red and white foxes, marten and marten parks,* some beaver, river otter, bear,

* Somewhat like a carter's frock.

wolf, sea-dog, and sea-horse skins ; a few articles of warm clothing, and some ornaments carved out of sea-horse teeth, representing the animals common among them.

There were this year (1821) at the fair, which is termed a good one, two hundred and fifty narts, five hundred reindeer, with fifty-eight men, sixty women, and fifty-six children. Those (reindeer) which come to the fair return only to the river Tchaon, where they are exchanged for those which belong to and which had come from the Bay of St. Lawrence. Seventy-five and ninety days are required for them to perform the journey, which is about eight hundred versts, or five hundred miles.

There were three chiefs at the fair ; first, *Zebraskka* (almost Nebraska), who commands the tribes inhabiting the banks of the Tchaon, Packla, and Kvata rivers, as well as the country towards Shelatskoi Noss ; second, *Valetka*, chief of the Belo Morsky Tchukchi, which tribe inhabits the eastern seacoast, from Cape North to the Bay of Klasheui ; third, *Kocharga*, who commands the Tchukskoi Noss, or East Cape tribe, who inhabit the Noss and the country from thence to the Bay of St. Lawrence. The *first* are wanderers, and live by their reindeer, which are employed for burden between the river Tchaon and the fair, and in the trade of sea-horse teeth. The *second* subsist almost entirely by fishing and hunting, added to a small tribute or toll of tobacco, which is paid by their southern neighbors for a free passage along their coast,* they have no reindeer. The *third* tribe subsists by traffic and the breeding of reindeer, of which they have considerable herds, and are employed from the Bay of St. Lawrence to the banks of the Tchaon. There is also a fourth chief, who commands the Tchukchi of Anadyr Noss, a tribe who inhabit the country and banks of the Anadyr, and also subsist by traffic and the breeding of reindeer. These chiefs live equally distant from each other, about one hundred and fifty or two hundred miles, and carry on a sort of intercourse by means of the eastern coast Tchukchi, who are provided with *baidares*.†

The Tchukskoi Noss race are the most numerous ; those of the eastern coast the most warlike and hardy ; the Tchaon, or Shelatskoi, are the most friendly, and those on the Anadyr are the richest. Their whole number cannot exceed four or five thousand. The Kargaoulas are represented by them as far more numerous, but the Tchukchi cannot count past a hundred, or ten tens ; that is,

* This kind of toll for free passage along a coast or river or through a strait is probably the oldest.

† Baidares, a kind of Russian boat used on expeditions.

their fingers ten times over. Each tribe has a different dialect of the same language, and all understand one another, though the dialects are extremely difficult to articulate.

In the conversations I had with the *toions*, or chiefs (the same word is used in America, and in the same sense), I understood them to have no knowledge nor tradition of any land north of theirs; that the sea is for ten months so frozen that nothing but mountains of ice are visible, and that during the months of August and September the ice breaks up, but not in such a manner as to admit a passage for vessels. They told me also that large herds of reindeer roam from cape to cape, but do not come from the north beyond the sea. To the west of Shelatskoi Noss, termed by them Errie (a word also of the same import as in America, signifying a great sea or lake),* they say there is a large and very deep bay, into which the Packla and Tchaon discharge their waters, and in this bay two islands, the one called Ayon, small, and near the Noss, abounding in sea-horse teeth; the other, Illerie, large, and producing fine moss for the reindeer. The latter has some few residents, both in winter and summer; in the former season catching and killing wild reindeer for the fair, in the latter feeding the tame reindeer. I was also told that half way across the south side of the bay there is a high mountain of rock, named since by Baron Wrangel Cape Matiushkin—that from their habitation on the Tchaon and Packla rivers to Shelatskoi Noss it is only one day's journey with reindeer. Shelatskoi Noss does not, by their report, run far into the sea, but is elevated, and has a narrow passage between it and their country—in truth an isthmus, which forms a small bay, without islands, to the east of the Noss. The Noss is formed by the Tchaon and Packla Rivers on the west, and the Kvata and Ekakta on the east; and the Tchaon bay by Shelatskoi Noss and the island Illerie, which latter will, of course, be understood as the island of Sobedei. The Pojitcha is represented as not the same with the Anadyr, but a small yet rapid stream, which from the east enters the Tchaon; and, lastly, that the whole of their country is so mountainous and barren, and so deep in snow, that laden reindeer cannot come straight from the Bay of St. Lawrence, but are obliged to coast along the valleys on the shore until they reach the Packla, when their route changes from northwest to southwest.

They have no knowledge nor tradition of any nation called the Skellagers, but they recognize the word Kopai, as applicable to

* May not *Erie* (lake) have signified a great lake, or people living on a great lake, instead of *Cat*, or might it not have signified either?

the name of a person, in their language. They know nothing, either, of their origin or first settlement in the country, nor of the Tartar nations subject to Russia, nor do they understand any Tartar word. Their language bears no affinity to the Asiatic, though it is understood by the Koriaks. The features of the Tchukchi, their manners and customs, pronounce them of American origin, of which the shaving of their heads, puncturing of their bodies, wearing large ear-rings, their independent and swaggering way of walking, their dress and superstitious ideas, are also evident proofs; nor is it less than probable that the Esquimaux and other tribes of Arctic Americans may have descended from them, for several words of their language are alike, and their dress perfectly similar. That New Siberia has been inhabited there is not a doubt, many huts, or yorts, still existing, and there are traditions in Siberia of tribes having been compelled, from persecution, the smallpox, as well as from disease, to quit their lands for those beyond the seas.

The whole of them are ingenious, cunning, industrious, and excellent mechanics. They have no religion, but a sort of regard for some sorcerers or people held by them in veneration. They are allowed to retain five wives, whom they may put to death upon discovery of any criminal intercourse, holding also the power of compelling them to such criminal intercourse—an act by no means unfrequent when the husband is in want of an heir or son.*

They drink tea, are exceedingly fond of sugar. Tobacco is their great commodity, which they eat, chew, smoke, and snuff at the same time. I have seen boys and girls of nine or ten years of age put a large leaf of tobacco in their mouths without permitting any saliva to escape; nor will they put aside the tobacco should meat be offered them, but continue consuming both together.†

My return to Kolyma‡ occupied me only two days. I was most happy to meet with the Baron Wrangel, who had returned from his expedition round Shelatskoi Noss. I received from him the following account,§ which proves that the information I had derived from the Tchukchi was perfectly correct.||

* The greatest compliment an early Indian could pay a stranger was to present him, temporarily, one of his wives. Intercourse with a stranger, under such circumstances, was not considered criminal, but was, without the husband's consent.

† The prevalent use of tobacco among the ancient inhabitants of North America is evidenced by the pipes so frequently found in ancient mounds.

‡ "Kolyma," written Colima, gives the name of a province in Mexico.

§ I do not insert the account, but merely the above statement of Cochrane, to confirm the truth of what he has stated. Besides, in the account of the voyage of the Vega will be found a description of the coast explored by Baron Wrangel.

|| "Narrative of a Pedestrian Journey through Russia and Siberian Tartary," etc., by Capt. John Dundas Cochrane, R. N.

CHAPTER XXXII.

Voyage of the Vega—The Northern Coast of Asia—The Chukche—The Northernmost Cape of Asia—The Onkilon—The Wintering of the Vega—The Settlements of the Chukche—The Seacoast—The Chukche Trade and Travel—Mammoth Remains.

ON the 4th of July, 1878, a Swedish naval expedition left the harbor of Gothenburg, Sweden, to make the passage from the Atlantic to the Pacific Ocean around the north coast of Asia. On the 19th of August two of the vessels, the steamers Vega and Lena, anchored in a bay formed in Cape Chelyuskin, the most northerly cape of Asia, and thus the Swedes reached the goal which for centuries had been the object of unsuccessful struggles.

According to the map accompanying the account of the Vega's voyage, the latitude of Cape Chelyuskin is about $77^{\circ} 45'$, and therefore more than eleven degrees farther north than Behring Strait, which is intersected by the 66° . Cape Baranov was passed on the night before the 5th of September, the mouth of Chaun Bay on the night before the 6th of September, and Cape Chelagskoi was reached on the 6th at 4 o'clock P. M. This cape is four degrees farther north than Behring Strait.

The account says: "In the whole stretch from Yugor Schar to Cape Chelagskoi we had seen neither men nor human habitations, if I except the old uninhabited hut between Cape Chelyuskin and Chatonga. But on the 6th of September, when we were a little way off Cape Chelagskoi, two boats were sighted. The boats were of skin, built in the same way as the 'umiaks,' or woman-boats, of the Eskimo. They were fully laden with laughing and chattering natives, men, women, and children."

The north coast of Siberia is now, with the exception of its westernmost and easternmost parts, a desert. In the west there projects between the mouth of the Obi and the southern part of the Kara Sea the peninsula of Zalmal, which, by its remote position, its grassy plains, and rivers abounding in fish, appears to form the earthly paradise of the Samoyed of the present day. Some hundred families belonging to this race wander about here with their numerous reindeer herds. During winter they withdraw to the interior of the country, or southwards, and the coast is said then to be uninhabited. This is the case both summer and winter, not only with Beli Ostrov and the farthest portion of the peninsula between the Obi and the Yenisej (Mattesal), but also

with the long stretch of coast between the mouth of the Yenisej and Chaun Bay. During the voyage of the Vega, in 1878, we did not see a single native. No trace of man could be discovered at the places where we landed, and though for a long time we sailed quite near land, we saw from the sea only a single house on the shore, the wooden hut on the east side of Chelyuskin peninsula. Russian *simoves* and native encampments are indeed still found on the rivers some distance from their mouths, but the former coast population has withdrawn to the interior of the country or died out, and the north coast of Asia first begins to be inhabited at Chaun Bay.

The natives in the boats indicated by their cries and gesticulations that they wished to come on board. The engine was stopped, the boats lay to, and a large number of skin-clad, bare-headed beings climbed up over the gunwale in a way that clearly indicated that they had seen vessels before. A lively talk began, but we soon became aware that none of the crew of the boats or the vessel knew any language common to both, but signs were employed as far as possible. It was remarkable that none of them could speak a single word of Russian, while a boy could count tolerably well up to ten in English, which shows that the natives here came in closer contact with the American whalers than with Russian traders. They acknowledged the name *chukch* or *chautchee*.

Many of them were tall, well-grown men. They were clothed in close-fitting skin trousers and "pesks," or reindeer-skin. The head was bare, the hair always clipped short, with the exception of a small fringe in front, where the hair had a length of four centimetres and was combed down over the brow. Some had a cap of a sort used by the Russians at Chabarova, stuck into a belt behind, but they appeared to consider the weather still too warm for the use of this head-covering. The hair of most of them was bluish-black and exceedingly thick. The women were tattooed with black and bluish-black lines on the brow and nose, a number of similar lines on the chin, and, finally, some embellishments on the cheeks. The type of the face did not strike one as so unpleasant as that of the Samoyads or Eskimo. Some of the young girls were even not absolutely ugly. In comparison with the Samoyads they were even rather cleanly, and had a beautiful, almost reddish-white, complexion. Two of the men were quite fair. Probably they were descendants of Russians, who, for some reason or other, as prisoners of war or fugitives, had come to live among the Chukches, and had been nationalized by them.

In a little while we continued our voyage, after the Chukches

had returned to their boats, evidently well pleased with the gifts they had received.

On the 7th of September we steamed the whole day along the coast in a pretty open ice. At night we lay to at a floe. In the morning we found ourselves so surrounded by ice and fogs that, after several unsuccessful attempts to advance, we were compelled to lie to. When the fog lifted so much that the vessel could be seen from the land we were again visited by a large number of natives, who by signs invited us to land and visit their tents. As it was impossible immediately to continue the voyage I accepted the invitation.

We were received everywhere in a friendly way, and even offered whatever the house afforded. At the time, the supply of food was abundant. In one tent reindeer-beef was being boiled in a large cast-iron pot. At another two recently-shot or slaughtered reindeer were being cut in pieces. At a third an old woman was employed in taking out of the paunch of the reindeer the green spinage-like contents and cramming them in a seal-skin bag, evidently to be preserved for green food during winter. Other seal-skin sacks, filled with train-oil, stood in rows along the walls of the tent. In all the tents were found seals cut in pieces. At one tent lay two fresh walrus heads, with large, beautiful tusks. According to all travellers, they pay the walrus-head a sort of worship.

Children were met in great numbers, healthy and thriving. In the inner tent the older children went nearly naked, and I saw them go out from it without shoes or other covering and run between the tents on the hoar frost-covered ground. The children were treated with marked kindness, and the older ones were never heard to utter an angry word.

No tents were met with in the neighborhood of the vessel's anchorage, but at many places along the beach there were seen marks of old encampments, sooty-soiled stones which had been used in the erection of tents, broken household articles, and, above all, remains of the bones of the seal, reindeer, and walrus. Near the place where the tents had stood were discovered some small mounds containing burnt bones. The cremation had been so complete that only a human tooth could be found. After cremation the remains of the bones and the ashes had been collected in an excavation and covered first with turf and then with small stones. The encampment struck me as having been abandoned only a few years ago, and even the collection of bones did not appear to me to be old. But we ought to be very cautious when we

endeavor, in the Arctic region, to estimate the age of an old encampment, because in judging of the changes which the surface of the earth undergoes with them we are apt to be guided by our experience from more southern regions. To how limited an extent this experience may be utilized in the high north is shown by Rink's assertion that in Greenland, at some of the huts of the Norwegian colonists, which have been deserted for centuries, footpaths can still be distinguished, an observation to which I would scarcely give credence until I had myself seen some similar at the site of a house in the bottom of Jacob's Haven ice-fjord, in north-western Greenland, which had been abandoned for one or two centuries. Here footpaths, as sharply defined as if they had been trampled yesterday, ran from the ruins in different directions.

During the night before the 10th of September the surface of the sea was covered with a very thick sheet of newly-frozen ice, which was broken up again in the neighborhood of the vessel by blocks of old ice drifting about. The pack itself appeared to have scattered a little; we therefore weighed anchor to continue our voyage.

The 12th of September, when we had passed Irkaipij, or Cape North, a good way, we fell in with so close ice that there was no possibility of penetrating farther. We were therefore compelled to return, and were able to make our way with great difficulty among the closely-packed masses of drift ice. Here the vessel was anchored near the northernmost spur of Irkaipij. She was removed and anchored anew in a little bay open to the north, which was formed by two rocky points jutting out from the mainland. Unfortunately we were detained here until the 18th of September. It was this involuntary delay which must be considered the main cause of our wintering.*

Irkaipij is the northernmost promontory in that part of Asia seen by Cook in 1778. It was therefore called by him Cape North. It is incorrect, for the northernmost cape of Siberia is Cape Chelyuskin. The northernmost in the land east of the Lena is Cape Svatoinos; the northernmost in the stretch of coast east of Chaun Bay is Cape Chelagskoj. Cape North ought therefore to be replaced by the original name, Irkaipij, which is well known to all the natives between Chaun Bay and Behring Strait.

On the neck of land which connects Irkaipij with the mainland

* On September the 28th the Vega was ice-bound at Kolyutschin Bay, but long after that there was still an open water on the coast four or five kilometers from the vessel.

there was, at the time of our visit, a village consisting of sixteen tents. We saw here also *ruins*, viz., the remains of a large number of house-sites which belonged to a race called *Onkilon*, who formerly inhabited these regions, and some centuries ago were driven by the Chukches, according to tradition, to some remote islands in the Polar Sea. The refuse heaps contained implements of stone and bone, among which were stone axes, which, after lying two hundred and fifty years in the earth, were still fixed to their handles of wood or stone. Even the thongs with which the axes had been bound fast to or *wedged into* the handles were still remaining. The tusks of the walrus had, to the former inhabitants of the place, as to the Chukches of the present, yielded a material used for spear-heads, bird-arrows, fish-hooks, ice-axes, etc. Walrus-tusks, more or less worked, were found in the excavations in great abundance. The bones of the whale had also been employed on a great scale, but we did not find any large pieces of mammoths' tusks—an indication that the race was not in any intimate contact with the inhabitants of the region to the westward, so rich in remains of the mammoth.

Remains of old dwellings were found, even at the highest points, among the stone mounds of Irkaipij, and here, perhaps, was the last asylum of the Onkilon race. At many places on the mountain-slopes were seen large collections of bones, consisting partly of a large number (at one place up to fifty) of bears' skulls overgrown with lichens, laid in circles, with the nose inward; partly of the skulls of reindeer, Polar bear, and walrus, mixed together in a less regular circle, in the midst of which reindeer-horns were found set up. Along with the reindeer-horns was found the coronal bone of an elk, with portions of the horns still attached. No portions of human skeletons were found in the neighborhood. These places are sacrificial places which the one race has inherited from the other."

Wrangel gives the following account of the tribe which lived here in former times:

"As is well known, the seacoast at Anadyr Bay is inhabited by a race of men who by their bodily formation, dress, language, differ manifestly from the Chukches, and call themselves Onkilon—*seafolks*. In the account of Captain Billings' journey through the country of the Chukches he shows the near relationship the language of this coast-tribe has to that of the Aleutians* at Kadyak,

* As inhabiting or related to the inhabitants of these Aleutian Islands, and islanders being seafaring, may not the Onkilon "*seafolk*" have derived their name from these circumstances?

who are of the same primitive stem as the Greenlanders. Tradition relates that upwards of two hundred years ago these Onkilon occupied the whole of the Chukche coast from Cape Chelagskoj to Behring Strait, and, indeed, we still find along the whole of this stretch remains of their earth huts, which must have been very unlike the present dwellings of the Chukches; they have the form of small mounds, one-half sunk in the ground, and closed above with whale-ribs, which are covered with thick layers of earth. A violent quarrel between Krachoj, the chief of these North Asiatic Eskimo, and an *errim*, or chief, of the reindeer Chukche, broke out into an open feud. Krachoj drew the shorter straw, and found himself compelled to fly and leave the country with his people. Since then the whole coast has been desolate and uninhabited.

Of the emigration of these Onkilon, the inhabitants of the village Irkaipij, where Krachoj appears to have lived, narrated the following story: He had killed a Chukche *errim*, and was therefore eagerly pursued by the son of the murdered man, whose pursuit he for a considerable time escaped. Finally Krachoj believed that he had found a secure asylum on the rock at Irkaipij, where he fortified himself behind a kind of natural wall, which can still be seen. But the young Chukche *errim*, driven by the desire to avenge his father's death, finds means to make his way within the fortification and kills Krachoj's son. Although the blood-revenge was now probably complete according to the prevailing idea, Krachoj must have feared a further pursuit by his unrelenting enemy; for, during the night, he lowers himself with thongs from his lofty asylum nearly overhanging the sea, enters a boat which waits for him at the foot of the cliff, and, in order to lead his pursuers astray, steers first towards the east, but at nightfall turns to the west, reaches Schalanrov Island, and there fortifies himself in an earth hut, whose remains we have seen. Here he then collected all the members of his tribe, and fled with them in fifteen 'baydars' to the land whose mountains the Chukches assure themselves they can, in clear sunshine, see from Cape Yakan.

During the following winter a Chukche related to Krachoj disappeared in addition with his family and reindeer, and it is supposed that he, too, betook himself to the land beyond the sea. With this another tradition agrees, which was communicated to us by the inhabitants of Kolyutschin Island, for an old man informed me that during his grandfather's lifetime a 'baydar' with seven Chukches, among them a woman, had ventured too far out to sea. After they had long been driven hither and thither by the wind, they stranded in a country unknown to them,

whose inhabitants struck the Chukches themselves as coarse and and brutish. The shipwrecked men were all murdered ; only the woman was saved, was very well treated, and taken round the whole country and shown to the natives as something rare and remarkable. So she came at last to the Korgauts, a race living on the American coast at Behring Strait, where she found means to escape to her own tribe. This woman told her countrymen much about her travels and adventures. Among other things she said she had been in a great land which lay north of Kolyutchin Island, stretched far to the *east*, and was probably connected with America. This land was inhabited by several races of men ; those living in the west resembled the Chukches in every respect, but those living in the east were so wild and brutish that they scarcely deserved to be called men. The whole account, both of the woman herself and of the narrators of the tradition, is mixed up with so many improbable adventures, that it would scarcely be worthy of any attention were it not remarkable for its correspondence with the history of Krachoj."

When Wrangel wrote that, he did not believe in the existence of the land which afterwards obtained the name of Wrangel's Land. Now we know that the land spoken of by tradition actually exists, and therefore there is much that even tells in favor of its extending as far as to the archipelago on the north coast of America.

Between us and the present inhabitants of the Chukche village at Irkaipij there soon arose very friendly relations. Here, as in all Chukche villages, which we afterward visited, absolute anarchy prevailed. At the same time the greatest unanimity reigned in the headless community. Children, healthy and strong, tenderly cared for by the inhabitants, were found in large numbers. A good word to them was sufficient to pave the way for a friendly reception in the tent. The women were treated as the equals of the men, and the wife was always consulted by the husband when a more important bargain than usual was to be made ; many times it was carried through only after the giver of advice had been bribed with a handkerchief. The articles which the men purchased were immediately committed to the wife's keeping. One of the children had round his neck a band of pearls, with a Chinese coin having a square hole in the middle, suspended from it ; another bore a perforated American cent piece. None knew a word of Russian ; but here, too, a youngster could count ten in English. They also knew the word "ship."

On the evening of the 23d of September we lay to at ground-ice

in a pretty large opening of the ice field. This opening closed during the night, so that on the 24th and 25th we could make but very little progress, but on the 26th we continued our course to Cape Onman. The natives who came on board here give the place that name.

On the 27th we continued our course to Kolyutschin Bay. The mouth of the bay was filled with very closely packed drift-ice, which had gathered round the island situated there, which was inhabited by a large number of Chukche families. The vessel was anchored to an ice-floe near the eastern shore of the fiord.

I made an excursion on land. In the course of it Johnsen was sent to the top of the range of heights which occupied the interior of the promontory, in order to get a view of the state of the ice farther to the east. I was wandering about along with my comrades on the slopes near the beach when Johnsen came down. He informed us that from the top of the height one could hear bustle and noise and see fires at an encampment on the other side of the headland. I had a strong desire to go thither, in order, as I thought, "to make a farewell visit to the Chukches," for I was quite certain that on some of the following days we should sail into the Pacific. None of us then had an idea that we would for the next ten months be experiencing a winter at the pole of cold, frozen-in in an unprotected road, under almost continual snow-storms, and with a temperature which often sank below the freezing point of mercury.

When on the following day, the 28th of September, 1878, we had sailed past the headland which bounds Kolyutschin Bay on the east, the channel next the coast became suddenly shallow. The depth was too small for the Vega, for which we had now to seek a course among the blocks of ground-ice and fields of drift-ice in the offing. The night's frost had bound them so firmly together that the attempt failed. We were thus compelled to lie to near ground-ice.

The fragile ice-sheet which on the 28th of September bound together the ground-ice, and hindered our progress, increased daily in strength under the influence of severer and severer cold, until it was melted by the summer heat of the following year. Long after we were beset, however, there was still open water on the coast four or five kilometres from our winter haven.

Assured that a few hours of southerly winds would be sufficient to break up the belt of ice, scarcely a Swedish mile (6.64 English miles) in breadth that barred our way, I was not at first uneasy at the delay, of which we took advantage to make short excur-

sions on land and holding converse with the inhabitants. First when day after day passed without any change, it became clear to me that we must make preparation for wintering just on the threshold between the Arctic and Pacific Oceans, it was an unexpected disappointment, which it was the more difficult to bear with equanimity, as it was evident that we would have avoided it if we had come some hours earlier to the eastern side of the Kolyutshin Bay. There were numerous occasions during the preceding part of our voyage in which these hours might have been saved.

The position of the vessel was by no means very secure, for the Vega when frozen in did not lie at any haven, but was only anchored behind ground-ice which had stranded in a depth of nine and a half metres, fourteen hundred metres from land, in a road which was quite open true N. 74° W. by North to East. The Vega was anchored the first time on the 28th of September at some small ice-blocks which had stranded two hundred metres nearer the land, but was removed the following day from that place because there were only a few inches of water under the keel.

When the Vega was beset, the sea near the coast was covered with newly-formed ice too thin to bear a foot-passenger, but thick enough to prevent the passage of a boat. In the offing lay, as far as the eye could see, closely-packed drift ice, which was bound together so firmly by the newly-formed ice that it was vain to endeavor to force a passage. Already by the 2d of October it was possible to walk upon the newly-formed ice nearest the vessel, and on the 3d of October the Chukches came on board on foot.

The ground-ice to which the Vega was moored the 29th of September, and under which she lay during the course of the winter, was about forty metres long, twenty-five broad, and its highest point above the surface of the water six metres. It gave the vessel good shelter.

The winter haven was situated in $67^{\circ} 4' 49''$ north latitude, and $173^{\circ} 23' 2''$ longitude west of Greenwich, 1.4 kilometres from land. The distance from the East Cape was 120', and from Point Hope, near Cape Lisburn, on the American side, 180'.

The sandy neck of land which on the side next the vessel divided the lagoons from the sea was bestrewed with colossal bones of the whale and with the refuse of the Chukches who had lived and wandered about there for centuries; and, besides, with portions of the skeletons of the seal and walrus, with excreta of men, dogs, birds, etc. The region was among the most disagreeable I

have seen in any of the parts inhabited by fishing Lapps, Samoyads, Chukches, or Eskimo. When the Vega was beset there were two Chukche villages on the neighboring beach, of which the one nearest our winter haven was called Pitlekaj. It consisted at first of seven tents, which, in consequence of want of food, their inhabitants moved gradually, in the course of the winter, to a region near Behring Strait, where fish were more abundant. At removal only the most indispensable articles were taken along, because there was an intention of returning at that season of the year when the chase again becomes more productive. The other encampment, Yinretlen, lay nearer the cape, towards Kolyutschin Bay, and reckoned at the beginning of our wintering, likewise, seven tents, whose inhabitants appeared in better circumstances than those of the Pitlekaj. They had, during the autumn, made a better catch and collected a greater stock. Only some of them, accordingly, removed during winter.

The following encampments lay at a somewhat greater distance from our winter quarters, but so near, however, that we were often visited by their inhabitants.

Pedlin, on the eastern shore of Kolyutschin Bay, four tents.

Kolyutschin, on the island of the same name, twenty-five tents. This village was not visited by any member of the Vega expedition.

Riraitinop, situated six kilometres east of Pitlekaj, three tents; Irgunnuk, seven kilometers east of Pitlekaj, ten tents, of which, however, in February only four remained. The inhabitants of the others had for the winter sought a better fishing-place farther eastward.

The number of the persons who belong to each tent was difficult to make out, because the Chukches were constantly visiting each other for the purpose of gossip and talk. On an average it may perhaps be put at five or six persons. Including the inhabitants of Kolyutschin Island there thus lived about three hundred natives in the neighborhood of our winter quarters.

When the natives observed us there was immediately a great commotion among them. Men, women, children and dogs were seen running up and down the beach in eager confusion. At last a boat was got to a lane clear of ice, or only covered with a thin sheet that ran from the shore to the neighborhood of the vessel. In this a large skin-boat was put out, which was filled brimful of men and women. They rowed immediately to the vessel, and on reaching it most of them climbed without the least hesitation over the gunwale with jests and laughter, and the cry *anoaj, anoaj*

(good day, good day). Our first meeting with the inhabitants of this region, where we afterwards passed ten months, was on both sides very hearty, and formed the starting-point of a very friendly relation between the Chukches and ourselves, which remained unaltered during our stay.

On board, the vessel's tent-covered deck soon became a veritable reception-room for the whole population of the neighborhood. Dog-team after dog-team stood all day in rows, or, more correctly, lay snowed-up before the ice-built flight of steps to the deck of the Vega, patiently waiting for the return of the visitors or for the pemmican I now and then promptly ordered to be given the hungry animals. The report of the arrival of the remarkable foreigners must, besides, have spread with great rapidity, for we soon had visits even from distant settlements, and the Vega finally became the resting-place at which every passer-by stopped with his dog-team for some hours.

All who called on board were allowed to go about, without let or hindrance, on our deck, which was encumbered with a great many things. We had not, however, to lament the loss of the merest trifle. Honesty was as much at home here as in the homes of the reindeer Lapps. On the other hand, they soon became very troublesome by their beggary. Nor did they fail to take all possible advantage of what they doubtless considered the great inexperience of the Europeans. Small deceptions in this way were evidently not looked upon as blameworthy, but as meritorious. Sometimes, for instance, they sold us the same thing twice. They were always liberal in promises, which they never intended to keep, and often gave deceptive accounts of articles which were exposed for sale. None of the natives in the neighborhood of the Vega's winter station professed the Christian religion, none of them spoke any European language, though one or two knew a couple of English words, and a Russian word of salutation.

On the 20th of February three large Chukche sledges, laden with goods and drawn by sixteen or twenty dogs, stopped at the Vega. They said they came from the eastward, and were on their way to the market in the neighborhood of Nischni Kolymsk.

In the beginning of March there passed us a large number of sledges laden with reindeer-skins, and drawn by eight to ten dogs each. These trains were on a commercial journey from Irkaipij to Pak, on Behring Strait. We found among the foremen many of our acquaintances from the preceding autumn. Conversation during such visits became very lively and went on with little hin-

drance, since two of us were now somewhat at home in the Chukche language.

Sledges of considerable size, drawn by reindeer, began after the middle of March to pass the Vega in pretty large numbers. They were laden with reindeer-skins and goods bought at the Russian market-places, and intended for barter at Behring Strait.

The *reindeer* Chukches are better clothed and appear to be in better circumstances, and more independent than the coast Chukches, or, as they ought to be called in correspondence with the former name, the *dog* Chukches. As every one owns a reindeer herd, all must follow the nomad mode of living, but at the same time they carry on traffic between the savages in the northernmost parts of America and the Russian fur-dealers in Siberia, and many of them pass their whole lives in commercial journeys. The principal market is held annually during the month of March, on an island in the river Little Anjui, two hundred and fifty versts from Nischni Kolymsk. The bargain goes on in accordance with a normal price-list, mutually agreed upon by the Russian merchants and the oldest of the Chukches. At such markets there is said to be considerable confusion, to judge by the spirited description which Wrangel gives of it. This description, however, refers to the customs that prevailed sixty years ago.

Besides the traders, a large number of Chukches from Kolyutschin Island and other villages to the west travelled past us with empty sledges to which were harnessed only a few dogs. They returned in the course of a few days with their sledges fully laden with fish, which they said they had caught to the eastward.

On the 19th of April, at four o'clock A.M., the hunter Johnsen and I started for a short excursion eastward along the coast, with a view to pay a visit to the much frequented fishing station, Najtskaj, where our old friends from Pitlekaj had settled. At six o'clock A.M. we reached Rirajtinap, which formerly consisted of a great many tents, now had only one tent, Notti's, and it was poor enough. Among household articles in the tent I noticed a face-mask of wood, less shapeless than those which, according to Whymper's drawings, are found among the natives along the river Youcon, in the territory of Alaska; and, according to Dr. Simpson, among the West Eskimo, I learned afterwards that this mask came from Pak, Behring Strait, whither it was probably carried from the opposite American shore.

The village Irgunnuk is from three to four hundred metres from Rirajtonop, and consists of five tents, one of which two days be-

fore had been removed from Yinretlen. The tents are, as usual, placed on earthy eminences.

The coast from Sigunnuk to Najtskaj runs in a straight line, is low, and only now and then interrupted by small earthy eminences, which all bear traces of old dwellings. Each of these heights has its special name. At noon we reached Najtskaj.

The day after our arrival at Najtskaj we visited the village Tjapka, which lies at a distance of six kilometres. The village contains thirteen tents, some of which are more roomy and better built than any Chukche tent I had previously seen. We lodged in a tent which belonged to Erere, a friendly man, whose face was always cheerful. His sleeping-chamber was so large that it could hold more than one family. We found the inmates there completely naked, Erere's wife not excepted.

Erere had five children. In all the tents which I have visited I have inquired the number of children. Only two or three wives had more than three; the average may be estimated at two.

In the beginning of July the ground became free of snow, and we could now form an idea of how the region looked in summer in which we passed the winter. Far away in the south the land rose with terrace-formed escarpments to a hill called by us Table Mount, which, indeed, was pretty high, but did not, by any steep or bold cliffs, yield such a picturesque landscape border as is seldom wanting in the portions of Spitzbergen, Greenland, and the northern part of Novaya Zemlya which I had visited; south Novaya Zemlya has, at least at most places, bold picturesque shore-cliffs. If I except the rocky promontory of Yinretlen, where a cliff inhabited by ravens rises boldly out of the sea, and some cliffs situated farther in along the beach of Kolyutschin Bay, the shore in the immediate neighborhood of our wintering-station consisted everywhere only of a low beach formed of coarse sand. Upon this sand, which was always frozen, there ran parallel with the shore a broad bank or dune fifty to one hundred metres broad of fine sand not water-drenched in summer, and, accordingly, not bound together by ice in winter. It is upon this dune that the Chukches erect their tents. Marks of them are therefore met with nearly everywhere, and the dune, accordingly, is everywhere bestrewed with broken implements or refuse from the chase. Indeed, it may be said, without exaggeration, that *the whole northeastern coast of the Siberian Polar Sea is bordered with a belt of sweepings and refuse of various kinds.*

When, on the 16th July (1879), the reindeer Chukche Yettugin came on board, and, talking of collecting whalebones, in which we

had been engaged some days before, informed us that there was a mammoth bone at his tent, and that a mammoth's tusk stuck out at a place where the spring floods had cut into the bank of a river which flowed from Table Mount to Riraitinop, I did not hesitate to make an excursion to the place. Our absence from the vessel was reckoned at five or six days. It was my intention to go up the river in a skin-boat belonging to Notti to the place where the mammoth tusk was, and thence to proceed on foot to Yettugin's tent. Yettugin assured us that the river was sufficiently deep for flat-bottomed boats. But when we had travelled a little way into the country it appeared that the water had fallen considerably during the day Yettugin had passed on the vessel. So certain, however, was I that the ice-border would not yet, for a long time, be broken up, that I, immediately after my return from the excursion, which had been thus rendered unsuccessful, made arrangements for a new journey, in order, with other means of transport, to reach the goal.

While we were thus employed the forenoon of the 18th passed. We sat down to dinner at the usual time without any suspicion that the time of our release was now at hand. During dinner it was suddenly observed that the vessel was moving slightly. Pölander rushed on deck, saw that the ice was in motion, ordered the boiler-fire to be lighted, the engine having long ago been put in order in expectation of this moment, and in two hours, by 3.30 p. m., on the 18th of July, 1879, the Vega, decked with flags, was under steam and sail again, on the way to her destination.

CHAPTER XXXIII.

The Division of Chuckches—Their Population—Their Burials, Tents, Boats, etc.

THE CHUCKCHES.

It may be mentioned that Steller and Krascheninnikov only touch in passing on the true Chuckches, but, instead, give very instructive and detailed accounts of the Koryaks, who are as nearly allied to the Chuckches as the Spaniards to the Portuguese, but yet differ considerably in their modes of life; and also that a part of these authors' statements regarding the Chuckches do not at all refer to that tribe, but to the Eskimo. It appears, indeed, that recently, after the former's national enmity had ceased, mixed races have arisen among these tribes; but it ought not to be for-

gotten that they differ widely in origin, although the Chuckches, as coming at a later date to the coast of the Polar Sea, have adopted almost completely the hunting implements and household furniture of the Eskimo, and the Eskimo again, in the districts where they come in contact with the Chuckches, have adopted various things from their language.

Like the Lapps, and most of the European and Asiatic Polar races, the Chuckches fall into two divisions, speaking the same language and belonging to the same race, but differing considerably in their modes of life. One division consists of reindeer nomads, who with their often very numerous reindeer-herds wander about between Behring Straits and the Indigirka and the Penschina bays. They live by tending reindeer and by trades, and consider themselves the chief part of the Chuckche tribe. The other division of the race are the coast Chuckches, who do not own any reindeer, but live in fixed but easily-movable, and frequently-moved, tents along the coast between Chaun Bay and Behring Straits. But beyond East Cape there is found along the coast of Behring Sea another tribe nearly allied to the Eskimo. This is Wrangel's *Onkilon*, Lutke's *Namollo*. Now, however, Chuckches also have settled at several points on the line of coast, and a portion of the Eskimo have adopted the language of the superior Chuckche race. Thus the inhabitants of St. Lawrence bay spoke Chuckche, with a little mixture of foreign words, and differed in their mode of life and appearance only inconsiderably from the Chuckches, whom during the course of the winter we learned to know from nearly all parts of the Chuckche peninsula. The same was the case of the natives who came on board the Vega while we sailed past East Cape, and with the two families we visited in Konyan bay. But the natives in the northwest part of St. Lawrence Island talk an Eskimo dialect quite different from the Chuckche. There were, however, many Chuckche words incorporated with it. At Port Clarence, on the contrary, there lived pure Eskimo. Among them we found a Chuckche woman, who informed us that there were Chuckche villages also on the American side of Behring Strait, north of Prince of Wales Cape. They cannot, however, be very numerous or populous, as they are not mentioned in the account of the various English expeditions to those regions.

Lieutenant Nordquist collected from the numerous foremen, who visited at the Vega, information as to the names of the encampments which are to be found, at present, on the coast between Chaun Bay and Behring Strait, and the number of tents at

each village. He thus ascertained that the number of the tents in the coast villages amounted to about four hundred. The number of inhabitants in each tent may be, according to our experience, averaged at five. The population on the line of coast in question may thus amount to about two thousand, at most to twenty-five hundred men, women, and children. The number of the reindeer Chuckches appears to be about the same. The whole population of Chuckch Land may thus now amount to four thousand or five thousand persons. The Cossack Popov reckoned, in 1711, that all the Chuckches, both reindeer-owning and those with fixed dwellings, numbered two thousand persons. Thus, during the last two centuries, if these estimates are correct, the Polar race has doubled in numbers.

In regard to the Chuckche language there appear to be no dialects differing very much from each other. Whether foreign words, borrowed from other Asiatic languages, have been adopted in Chuckche, we have not been able to make out. It is certain that no Russian words are used. The language strikes me as articular and euphonious. It is nearly allied to the Koryak, but so different from other both East Asiatic and American tongues that philologists have not yet succeeded in clearing up the relationship of the Chuckches to other races.

Like most other Polar tribes, the Chuckches now do not belong to any unmixed race. This one is soon convinced of if he considers attentively the inhabitants of a large tent-village. Some are tall, with raven-black hair, brown complexion, high, aquiline nose, in short, with an exterior that reminds us of the description we read of the North American Indians. Others, again, by their dark hair, slight beard, sunk nose, or rather projecting cheekbones, and oblique eyes, remind us distinctly of the Mongolian race ; and, finally, we meet among them with fair faces, with features and complexion which lead us to suspect that they are descendants of runaways or prisoners of war or purely of Russian origin. The most common type is straight, coarse black hair of moderate length, the brow tapering upwards ; the nose finely formed, but with its root often flattened ; eyes by no means small ; well-developed black eyebrows ; projecting cheeks, often swollen by frost-bite ; light, slightly brown complexion, which in the young women is often nearly as red and white as in Europeans. The beard is always scanty. Nearly all are stout and well-grown. We saw no cripples among them. The young women often strike one as very pretty, if one can rid oneself of the unpleasant impression of the dirt, which is never washed away but by the drift-

ing snow of winter, and of the nauseous train-oil odor which in winter they carry with them from the close-tented chamber. The children nearly always make a pleasant impression by their healthy appearance and their friendly and becoming behavior.

The Chuckches are a hardy race, but exceedingly indolent when want of food does not force them to exertions. The men during their hunting excursions pass whole days in a cold of 30° to 40° out upon the ice without protection, and without carrying with them food or fuel. In such cases they slake their thirst with snow, and assuage their hunger, if they have been successful in hunting, with the blood and flesh of the animals they have killed. Women, nearly naked, often during severe cold, leave for a while the inner tent, or tent-chamber, where the train-oil lamp maintains a heat that is at times oppressive. A foreigner's visit induces the completely naked children to half creep out from under the curtain of reindeer-skin which separates the sleeping-chamber from the exterior tent, in which, as it is not heated, the temperature is generally little higher than that of the air outside. In this temperature the mothers do not hesitate to show their naked children, one or two years of age, to visitors, for some moments.

Diseases are, notwithstanding, uncommon, with the exception that in autumn, before the severe cold commences, nearly all suffer from a cough and cold. Very bad skin eruptions and sores also occur so frequently that a stay in the inner tent is thereby commonly rendered disgusting to Europeans. Some of the sores, however, are merely frost-bites, which most Chuckches bring on themselves by the carelessness with which, during high winds, they expose the bare neck, breast and wrists to the lowest temperature. On the other hand, we never saw any one who had a frost-bite on the hands or feet, a circumstance which may be ascribed to the serviceable nature of their shoes and gloves. From the beginning of October, 1878, to the middle of July, 1879, no death appears to have happened at any of the encampments near. During the same time the number of the inhabitants was increased by two or three births.

It appears as if the Chuckches sometimes burn their dead, sometimes expose them on the tundra as food for beasts of prey, with weapons, sledges, and household articles. It is at least certain that the inhabitants of Pitlekaj exclusively bury their dead by laying them out on the tundra. In the spring of 1879, after the snow was melted, we had further opportunities of seeing a large number of burying-places, or, more correctly, of places where dead Chuckches had been laid out. They were marked

by stones placed in a peculiar manner, and were measured and examined in detail by Dr. Stuxberg, who gives the following description of them :—

"The Chuckche graves on the heights south of Pitlekaj and Yinretlen, which were examined by me on the 4th and 7th of July, 1879, were nearly fifty in number. Every grave consisted of an oval form of large lying stones. At one end there was generally a large stone raised on its edge, and from the opposite end there went out one or two pieces of wood lying on the ground. The area within the stone circle was sometimes overlaid with small stones, sometimes free and overgrown with grass. At all the graves, at a distance of four to seven paces from the stone standing on its edge, on the longitudinal axis of the grave, or a little to the side of it, there was another small circle of stones enclosing a heap of reindeer-horns, commonly containing also broken seals' skulls and other fragments of bones; only in one grave were found pieces of human bones. The graves were evidently very old, for the bits of wood at the ends were generally much decayed, and almost wholly covered with earth, and the stones were completely overgrown with lichens on the upper side. I estimated the age of these graves at about two hundred years.

The Chuckches live, summer and winter, in tents of a peculiar construction, not used by any other race; for in order to afford protection from the cold the tent is double, the outer envelope enclosing an inner tent or sleeping-chamber. This has the form of a parallelopiped, about 3.5 metres long, 2.2 broad, and 1.8 high. It is surrounded by thick warm reindeer-skins, and is further covered with a layer of grass. The floor consists of a walrus-skin stretched over a foundation of twigs and straw. At night the floor is covered with a carpet of reindeer-skins, which is taken away during the day. The rooms at the sides of the inner tent are also shut off by curtains, and serve as pantries. The inner tent is warmed by three train-oil lamps, which, together with the heat given off by the numerous human beings packed together in the tent, raise the temperature to such a height that the inhabitants, even during the severest winter cold, may be completely naked. The work of the women and the cooking is carried on in winter in this tent-chamber; very often also the calls of nature are obeyed in it. All this conduced to make the atmosphere prevailing there unendurable (to Europeans). There are also, however, cleaner families, in whose sleeping-chambers the air is not so disgusting.

In summer they live, during the day, and cook and work in the outer tent. This consists of seal and walrus-skins sewed to-

gether, which, however, are so old, hairless, and full of holes that they appear to have been used for several generations.*

The entrance consists of a low door, which, when necessary, may be closed with a reindeer-skin. The floor of the outer tent is the bare ground. This is kept very clean, and the few household articles are hung up carefully, and in an orderly manner, along the wall on the inner and outer sides of the tent. Near the tent are some posts, as high as a man, driven into the ground, with cross-pieces, on which skin-boats, oars, javelins, etc., are laid, and from which fish and seal-nets are suspended.

Their tents were always situated on the seashore, generally on the small neck of land that separates the strand lagoons from the sea. They are erected and taken down in a few hours. Sometimes they appear to own the wooden frame of a tent at several places, and, in such cases, at removal there are taken along only their tent-covering, the dogs, and the most necessary skin and household articles. The others are left without inclosure, lock or watch at the former dwelling-place, and one is certain to find all untouched on his return.†

The boats are made of walrus-skins sewed together and stretched over a light framework of wood and pieces of bone. The different parts of the framework are bound together with thongs of skin or strings of whalebone. In form and size the Chuckche large boat, *atkuat*, called by the Russians *baydar* corresponds completely with the Greenlander's *umiak*, or woman's boat. It is so light that four men can take it upon their shoulders, and yet so roomy that thirty men can be conveyed in it. One seldom sees *anatkual*, or boats intended for only one man; they are much worse-built and uglier than the Greenlander's *kayak*. The large boats are rowed with broad-bladed oars, of which every man or woman manages only one. By means of these oars a sufficient number of rowers can for a little while raise the speed of the boat to ten kilometers per hour. Like the Greenlanders, however, they often cease rowing in order to rest, laugh, and chatter, then row furiously for some minutes, rest themselves again, row rapidly, and so on. When the sea is covered with thin, newly-formed ice, they put two men in the front of the boat with one leg over, in order to trample the ice in pieces. During the winter the boats are laid up, and, instead, the dog-sledges are put in order."‡

* As wood for building is not to be found on the Chuckche coast, they make use principally of whalebones in building their tents.

† Honesty among the tribe appears to have been the universal characteristic of the early Indians of America from Chuckche to Chili. When the Peruvians learned that the Spaniards locked their doors they contemned them.

‡ "Voyage of the Vega," by Baron Adolf Erik Nordenskiold.



CHAPTER XXXIV.

St. Lawrence Bay—Nunamo—The Uses of the Whale-bones—Flowers—Port Clarence—The Natives—Eskimo—Their Implements—Burials—Nephite—Ocean Currents—The Behring Strait Channel—Konyan Bay—Geological Features—St. Lawrence Island Eskimo—The Discovery of Kamchatka—Expeditions to Kamchatka—Peter the Great—The First Voyage of Behring.

AFTER we had passed the easternmost promontory of Asia the course was shaped first to St. Lawrence Bay, a not inconsiderable fiord, which indents the Chukche peninsula a little south of the smallest part of Behring Strait [21]. It was my intention to anchor at this fiord to give the naturalists of the Vega expedition an opportunity of making acquaintance with the natural conditions of a part of the Chukch Land, which is more favored by nature than the bare stretch of coast completely open to the winds of the Polar Sea, which we hitherto had visited. I would willingly have stayed first for some hours at *Diomede Island, the market-place famed among the Polar tribes, situated in the northwest part of the Strait, nearly half way between Asia and America, and probably before the time of Columbus a station for traffic between the Old and the New World.* But such a delay would have been attended with too great a difficulty and loss of time in consequence of the dense fogs which prevail here. Even the high mountains on the Asiatic shore were still wrapped in a thick mist, from which only single mountain summits now and then appeared. The ice was so broken up that the Vega could steam forward at full speed to the neighborhood of St. Lawrence Bay.

In the mouth of the fiord itself impenetrable ice was met with, completely blocking the splendid haven of St. Lawrence Bay. The Vega, therefore, was compelled to anchor in the open road, off the village Nunamo. Our stay there was confined to a few hours.

During the course of the winter Lieut. Nordquist endeavored to collect from the Chukches travelling past as complete information as possible regarding the Chukche villages or encampments which are found along the coast between Chaun Bay and Behring Strait. His informants always finished their list with the village Ertryn, situated west of Cape Deschnev, explaining that further south and east there lived another tribe, with whom, indeed, they were not in open enmity, but who were not to be fully depended upon, and to whose villages they, therefore, dared not to accompany us.

While we steamed forward cautiously in a dense fog in the neighborhood of Cape Deschnev, twenty or thirty natives came, rowing in a large skin-boat, to the vessel. We received them with pleasure. But when they climbed over the side we discovered that they were pure Chukches, some of them old acquaintances, who, during the winter, had been guests on board the Vega. "*Ankali*," said they, with evident contempt, are first met with further beyond St. Lawrence Bay. When we anchored next day at the mouth of this bay, we were, as usual, immediately visited by a large number of natives, and ourselves visited their tents on land. They still talked Chukche with a limited mixture of foreign words, lived in tents of a construction somewhat different from the Chukches, and appeared to have a somewhat different cast of countenance. They themselves would not allow that there was any national difference between them and the old warrior and conquering tribe on the north coast, but stated that the race about which we inquired was settled immediately to the south. Some days after we anchored in Konyan Bay. We found there only pure reindeer-owning Chukches; there was no coast population living by hunting and fishing. On the other hand, the inhabitants near our anchorage off St. Lawrence Island consisted of Eskimo and Namollo. It thus appears as if a great part of the Eskimo who inhabited the Asiatic side of Behring Strait had, during recent times, lost their own nationality and become fused with the Chukches; for it is certain that no violent expulsion has recently taken place here. It ought, besides, to be remarked that the name *Onkilon*, which Wrangel heard given to the old coast population driven out by the Chukches, is evidently nearly allied to the word *Ankali*, with which the reindeer Chukches at present distinguish the coast Chukch; also, that in the oldest Russian accounts of Schestakov's and Paulutski's campaigns in these regions, there is never any mention of two different tribes living here. It therefore appears to me to be, on the whole, more probable that the Eskimo here emigrated from America to Asia, than that, as some authors have supposed, this tribe has entered America from the east by Behring Strait or Wrangel Land.

The tent-village Nunamo lies pretty high up on a cape between the sea and a river which debouches immediately to the northwest of the village. At a short distance from the coast the land was occupied by a very high chain of mountains, which was split up into a number of summits, and whose sides were formed of immense stone mounds distributed in terraces. The village consisted of ten tents built without order on the first high strand-bank.

The tents differed somewhat from the common Chukche tents. In the absence of driftwood, whale- and seal-bones, drenched in train-oil, are used as fuel in cooking in the open air during summer. A large curved whale-rib was placed over the fireplace to serve as a pot-holder; the vertebræ of the whale were used as mortars; hollowed whale-bones were used as lamps; slices of whale-bone or pieces of the under jaw and the straighter ribs were used for shoeing the sledges, for spades and ice-mattocks, the different parts of the implement being bound together with whale-bone fibres, etc.

When we left Pitlekaj vegetation there was still far from having reached its full development, but at Nunamo the strand-bank was gay with an exceedingly rich magnificence of color. On an area of a few acres Dr. Kjellman collected more than a hundred species of flowering plants, among which was a considerable number that he had not before seen on the Chukch peninsula.

During an excursion to the top of one of the neighboring mountains Dr. Stuxberg found the corpse of a native laid out on a stone-setting of a form common to the Chukches. Alongside the dead man lay a broken percussion-gun, spear, arrows, tinder-box, pipe and various other articles. The pipe was one of the clay pipes that I caused to be distributed to the natives. It had been placed there long after the proper burial.

On the afternoon of the 21st of July, 1879, I ordered the anchor to be weighed that the Vega might steam across to the American side of Behring Strait. As in all the polar seas of the northern hemisphere, so also here the western side of the strait was ice-bestrewed; the eastern, on the other hand, clear of ice. The passage was a rapid one, so that by the afternoon of the 21st of July we were able to anchor in Port Clarence, an excellent haven south of the westernmost promontory of America—Cape Prince of Wales.

Towards the sea Port Clarence is protected by a long, low, sandy reef, between the north end of which and the land there is a convenient and deep entrance. There a considerable river falls into the interior of the harbor, the mouth of which widens into a lake, which is separated from the outer harbor by a sandy neck of land. This lake also forms a good and spacious harbor, but its entrance is too shallow for vessels of any considerable draught.

The river itself is deep, and, about eighteen kilometres from its mouth, flows through another lake, from the eastern shore of which rugged and shattered mountains rise to a height which I estimated at eight hundred to one thousand metres, but their height may be

twice as great, for in making such estimates one is liable to fall into error.

Immediately after the anchor fell we were visited by several very large skin-boats and a large number of *kayaks*; the latter were larger than the Greenlanders', being commonly intended for two persons, who sit back to back in the middle of the craft. After the natives came on board a lively traffic commenced. I examined carefully the skin bags which the natives had with them. In doing so I picked out one thing after another while they did not object to me making an inventory. One of them, however, showed great unwillingness to allow me to get to the bottom of the sack; but this made me more curious to ascertain what was concealed there. I was urgent, and went through the bag half by violence until at last, in the bottom, I got a solution of the riddle—a loaded revolver. Several of the natives had also breech-loaders. The oldest age, with stone implements, and the most recent period, with breech-loaders, thus here reached hands to one another.

Many natives were evidently emigrating to more northerly hunting-grounds and fishing-places. Others had already pitched their summer tents on the banks of the inner harbor or of the river before mentioned. On the other hand, there was found in the region only a small number of winter dwellings abandoned during the warm season of the year. The population consisted of Eskimo. They did not understand a word of Chukche. Among them, however, we found a Chukche woman, who stated that true Chukches were found also on the American side north of Behring Strait. Two of the men spoke a little English, one had been even to San Francisco, another to Honolulu. Many of their household articles reminded us of contact with American whalers; and justice demands the recognition of the fact that, in opposition to what we commonly see stated, contact with men of civilized race appears to have been to the advantage and improvement of the savage in an economical and moral point of view. The arrangement of the hair resembled that of the Chukches. The women were tattooed with some lines on the chin. Many of the men wore small mustachios, some even a scanty beard, while others had attempted the American goatee. Most of them, but not all, had two holes cut in the lip below the corners of the mouth. In these holes were worn large pieces of bone, glass, or stone.* But these ornaments were often removed, and then the edges of the large holes closed so much that the face was not much disfigured. Many had, in addi-

* I have seen Choctaws with tin in the form of a semicircle or crescent nearly two inches in diameter suspended from the cartilage of the nose.

tion, a similar hole forward in the lip. It struck me, however, that this strange custom was about to disappear completely, or, at least, to be Europeanized by the exchange of holes in the mouth for holes in the ears. An almost full-grown young woman had a large blue glass bead hanging from the nose, in whose partition a hole had been made for its suspension. All the women had long strings of beads in their ears. They wore bracelets of iron or copper, resembling those of the Chukches. The color of the skin was not very dark, with perceptible redness of the cheeks; the hair black and tallow-like; the eyes small, brown, slightly oblique; the face flat; the nose small and depressed at the root. Most of the natives were of average height, appeared to be healthy and in good condition, and were marked neither by striking thinness nor corpulence. The feet and hands were small.

A certain elegance and order prevailed in their small tents, the floor of which was covered with mats of plaited plants. In many places vessels formed of cocoanut-shells were to be seen, brought thither, like some of the mats, by whalers from the South Sea Islands. For the most part their household and hunting implements were of American origin, but they still preserve in the lumber depositaries of the tent bows and arrows, bird-darts, bone boat-hooks, and various stone implements. The fishing implements, especially, were made with extraordinary skill of colored sorts of bone or stone, glass beads, and red pieces of the feet of certain swimming birds, etc. The different materials were bound together by twine made of whalebone in such a manner that they resembled large beetles, being intended for use in the same way as salmon-flies.

Fire was got partly with steel, flint, and tinder, partly by means of the fire-drill. The bow of the fire-drill was often of ivory, richly ornamented with hunting figures of different kinds. Their tools were more elegant, better carved, and more richly colored with graphite and red ochre than those of the Chukches. The people were better off, and owned a larger number of skin-boats, both *kayaks* and *umiaks*. All the older accounts, however, agree in representing that, in former times, the Chukches were recognized as a great power by the other savage tribes in these regions, but all recent observations indicate that that time is now past. A certain respect for them, however, appears still to prevail among their neighbors.

The natives, after the first mistrust had disappeared, were friendly and accommodating, honorable in their dealings, though given to begging and to much haggling in making a bargain.

There appeared to be no chief among them; complete equality prevailed, and the position of the women did not appear to be inferior to that of the men. The children were what we would call well brought up, though they got no bringing up at all. All were heathens. The liking for spirits appeared to be less strong than among the Chukches.

During our stay among the Chukches my supply of articles for barter was very limited, for uncertainty prevailed to the hour of our departure as to the time when we should get free, and I was therefore compelled to be sparing of the stores. Here I was a rich man, many thanks to the large surplus that was over from our abundant winter equipment. I turned my riches to account by making visits, like a peddler, in the tent-villages, with sacks full of felt-hats, thick clothes, stockings, ammunition, etc., for which I obtained a beautiful and choice collection of ethnographical articles. Among these may be mentioned beautiful bone etchings and carvings, and several arrow-points, and other tools of a species of nephrite, which is so puzzlingly like the well-known nephrite from High Asia that I am disposed to believe that it actually came originally from that locality. In such a case the occurrence of nephrite at Behring Strait is important, because it cannot be explained in any other way than either by supposing that the tribes living here have carried the mineral with them from their original home in High Asia, or that during the Stone Age of High Asia a like extended commercial intercommunication took place between the wild races as now exists, or at least some decades ago existed, along the north parts of Asia and America.*

On the north side of the harbor we found two Eskimo graves.

* "Nephrite is a light-green, sometimes grass-green, very hard and compact species of amphibolite, which occurs in High Asia, Mexico and New Zealand. In all these places it has been employed for stone implements, vases, pipes, etc. The Chinese put an immensely high value upon it. Nephrite was also, perhaps, the first of all stones to be used ornamentally, for we find axes and chisels of this material among the people of the Stone Age, both in Europe (where no locality is known where unworked nephrite is found), and in Asia, America, and New Zealand. In Asia implements of nephrite are found both on the Chukche Peninsula and in all graves from the Stone Age, in the southern part of the country. They have been discovered at Telma, sixty versts from Irkutsk. In scientific mineralogy nephrite is first mentioned under the name of *Kascholong* (*i.e.*, a species of stone from the river Kasch). It has been brought to Sweden under this name by Renat, a prisoner of war from Charles XII.'s army, from High Asia. Kascholong has erroneously been considered a species of quartz."

The corpses had been laid in the ground fully clothed, without the protection of any coffin, but surrounded by a close fence, consisting of a number of tent-poles driven crosswise into the ground. Alongside of the corpses lay a kayak with oars, a loaded double-barrelled gun, with locks at half-cock and caps on, various other weapons, clothes, tinder-box, snow-shoes, drinking vessels, two masks carved in wood and smeared with blood, and strangely shaped animal figures. Such were seen also in the tents. Bags of seal-skins, intended to be inflated and fastened to harpoons as floats, were sometimes ornamented with small faces carved in wood. In one of two amulets of the same kind one eye is represented by a piece of blue enamel stuck in, and the other by a piece of iron pyrites fixed in the same way. Behind two tents were found erected on posts, a metre and a half high, roughly formed wooden images of birds with expanded wings, painted red. I endeavored, unsuccessfully, to purchase these tent-idols for a large new felt-hat—an article for which I could obtain almost anything.

As the west coast of Europe is washed by the Gulf Stream, there also runs along the Pacific coast of America a warm current, which gives the land a much milder climate than that which prevails on the neighboring Asiatic side, whereas on the east coast of Greenland there runs a cold northerly current. The limit of trees, therefore, in northwestern America goes a great way north of Behring Strait, while on the Chukche Peninsula wood appears to be wholly wanting. Even at Port Lawrence the coast is devoid of trees, but some kilometres into the country alder bushes two feet high are met with, and behind the coast hills actual forests probably occur. Vegetation is, besides, already luxuriant at the coast, and far away here on the coast of the New World many species are to be found nearly allied to Scandinavian plants.

On the 26th of July, at three o'clock in the afternoon, we weighed anchor and steamed back to the shore of the Old World. Lieutenant Bove constructed a diagram, from which it may be seen how shallow is the sound, which in the northernmost part of the Pacific separates the Old World from the New. An elevation of the land less than that which has taken place since the glacial period at the well-known Chapel Hill at Uddevalla would evidently be sufficient to unite the two worlds, and a corresponding depression would have been enough to separate them, if, as is probable, they were at one time continuous. The diagram shows, besides, that the deepest channel is quite close to the coast of the Chukche Peninsula, and that the channel contains a mass of cold water

which is separated by a ridge from the warmer water on the American side.

The Vega anchored on the forenoon of the 28th of July, in the mouth of the most northerly of the fiords, Konyan Bay. This portion of the Chukche Peninsula had been visited before us by Captain (afterwards Admiral) Lutke. Captain Moor, of the Franklin Expedition, wintered here in 1848 and 1849. The region appears to have been then inhabited by a rather dense population. Now there lived at the bay where we had anchored only three reindeer Chukche families, and the neighboring islands must at the time have been uninhabited, or perhaps the arrival of the Vega may not have been observed, for no natives came on board.

The shore at the southeast part of Konyan Bay, in which the Vega now lay at anchor for a couple of days, consists of rather a desolate bog, in which a large number of cranes were breeding. Further into the country several mountain summits rose to the height of nearly six hundred metres. On the north side of the bay, to which excursions were made with the steam launch, grassy slopes were met with, with pretty high bushy thickets, and a great variety of flowers.

We also visited the dwellings of the reindeer Chukche families. They resemble the Chukche tents we had seen before, and the mode of life of the inhabitants differed but little from that of the coast Chukches, with whom we passed the winter. They were even clothed in the same way, excepting that the men wore a number of small bells in the belt. The number of reindeer which these families owned was only about four hundred, considerably fewer than is required to feed three Lapp families.

The neighborhood of Konyan Bay consists of crystalline rocks, granite poor in mica, and mica-schist lowermost, and then gray non-fossiliferous carbonate of lime, and last of all magnesian schists, porphyry, and quartzites. Here, however, we are already in the neighborhood of the volcanic hearths of Kamchatka, which, for instance, is shown by the hot springs not far from the coast. In the middle of the severe cold of February its waters had a temperature + 69° C. Hot steam and snow combined had thrown over the spring a lofty vault of dazzling whiteness formed of masses of snow converted into ice and covered with ice-crystals.

The interior of Konyan Bay was, during our stay there, still covered with an unbroken sheet of ice, which broke up in the afternoon of the 30th of July, when steam was got up, the anchor weighed, and the vessel removed to the open part of the fiord. The fear that a too lengthened delay might lead to a heavy expendi-

ture of money, I preferred to sail on immediately, rather than enter a safer harbor in the neighborhood. The course was now shaped for the northwest point of St. Lawrence Island, and the Vega was anchored on the 31st of July in an open bay on the northwest side of St. Lawrence Island. This island is the largest between the Aleutian Islands and Behring Strait. It lies nearer Asia than America, but is considered as belonging to the latter, for which reason it was handed over, along with Alaska Territory, by Russia to the United States. The island is inhabited by a few Eskimo families, who have commercial relations with their Chukche neighbors on the Russian side, and therefore have adopted some words from their language. On the St. Lawrence Island their dress is much ornamented, chiefly with tufts of feathers of the sea-fowls that breed in innumerable flocks on the island. At the time of our visit all the natives went bareheaded. The women wore their hair plaited and adorned with beads, and were much tattooed. Like the children, they mostly went barefooted and bare-legged.

The winter dwellings were now abandoned. They appear to consist of holes in the ground, which were covered above, with the exception of a square opening, with driftwood and turf. During the winter a seal-skin tent was probably stretched over the opening. At several tents were found large under-jaws of whales fixed in the ground. Masses of whale-bones lay thrown up along the shore. In the neighborhood of the tents graves were found. The corpses had been placed, unburned, in some cleft among the rocks.

Northeast of the anchorage the shore was formed of low hills rising with a steep slope from the sea. Here and there ruin-like cliffs projected from the hills. The rock here consisted of the same sort of granite which formed the lowermost stratum of Konyan Bay. It was principally at the foot of these slopes that the natives erected their dwellings. Southwest of the anchorage commenced a very extensive plain, which, towards the interior of the island, was marshy, but along the coast formed a firm, even, grassy meadow exceedingly rich in flowers. The natives had a few dogs but no reindeer, which, however, might find food on the island in thousands. No kayaks were in use, but large baydars of the same construction as those of the Chukches.

St. Lawrence Island was discovered during Behring's first voyages, which extended between July, 1725, to July, 1729, though to Deschnev, who sailed through the Straits eighty years before, should properly belong the first discovery. The first who came

in contact with the natives at St. Lawrence Island was Otto von Kotzebue, on the 27th of June, 1816, and 20th of July, 1817. The inhabitants had not before seen any Europeans, and they received the foreigners with great kindness.

As Kotzebue, two days after, sailed past the north point of the island, he met three baydars. In one of them a man stood up, held up a little dog and pierced it through with his knife, as Kotzebue believed, as a sacrifice to the foreigners.*

Since 1817 naval exploring expeditions have landed on St. Lawrence Island, but always only a few hours. It is very dangerous to stay long here with a vessel. Captain Polander was, on this account, anxious to leave the place as soon as possible. On the 2d of August, 1829, we accordingly resumed our voyage.

Some account remains to be given of the discovery of Kamchatka. Volodomir Atlassov is considered its proper discoverer. While he was commander at Anadrysk, he sent out, in 1696, the Cossack, Lucas Semenov Sin Morosko, with sixteen men to bring the tribes living in the north under tribute. The commission was executed, and on his return Morosko stated that he was not only among the Koryaks, but that he also penetrated to the neighborhood of the river Kamchatka, and that he took a Kamchadel "ostrog" (fort) and found in it some manuscripts in an unknown language, which, according to information afterward received, had belonged to some Japanese who had stranded on the coast of Kamchatka.† It was the first hint the conquerors of Siberia obtained of being in the neighborhood of Japan.

The year after, Atlassov followed the way which Morosko had opened up, and penetrated to the river Kamchatka, where, as a sign that he had taken possession of the land, he erected a cross with an inscription which when translated runs thus: "In the year 7205 (i. e., 1697), on the 13th of July, this cross was erected by the *pia-tidesatnik* (i. e., commander of fifty men) Volodomir Atlassov and his followers, fifty-five men." Atlassov then built on the Kamchatka River a *simovie*, which was afterward fortified and named Verchni Kamchatskoj Ostrog. Hence the Russians extended their power over the land.

In 1700 Atlassov travelled to Moscow, carrying with him a Japanese who had been taken prisoner after being shipwrecked on the

* The Chippewas, on a voyage, sacrifice a dog to propitiate the god of storms, by tying and casting it into the water. See Henry's "Narrative."

† In one account, 1698–1699 are given as the years of Morosko's and Atlassov's expedition. Several authorities are quoted in "The Voyage of the Vega" in verification of the above facts.

coast of Kamchatka, and the collected tribute which consisted of the skins of thirty-two hundred sables, ten sea-otters, seven beavers, four otters, ten grey-foxes, and one hundred and ninety-one red foxes. He was received graciously, and sent back as commander of the Cossacks in Yakutsk, with orders to complete the conquest of Kamchatka. An interruption, however, happened, for some time in the path of Atlassov, as a warrior and discoverer, in consequence of his having, during his return journey to Yakutsk, plundered a Russian vessel loaded with Chinese goods. He was not set free till 1706, and then recovered his command in Kamchatka. Finally in 1711, Atlassov and several other officers were murdered by their own countrymen. Their murderers undertook to subdue the unconquered parts of Kamchatka and the two northernmost of the Kurile Islands. Further information about the countries lying farther south was obtained from some Japanese who were shipwrecked, in 1710, on Kamchatka.

At first, in order to get to Kamchatka, the difficult detour by Anadyrsk was taken. But in the year 1711 the commander at Okotsk was ordered to proceed by sea from Okotsk to Kamchatka, but this voyage could not come off, because at that time there were at Okotsk neither sea-going boats, seamen, nor even men accustomed to the use of the compass. Some years after, Ivan Sorokaumov with twelve Cossacks was sent to Okotsk to make arrangements for this voyage, but the same difficulties still existed, and after Sorokaumov had created great confusion he was imprisoned and sent back. Peter the Great now commanded *that men acquainted with navigation should be sought for among the Swedish prisoners of war and sent to Okotsk; that they should build a boat there, and, provided with a compass, go by sea along with some Cossacks to Kamchatka and return.* Thus navigation began on the Sea of Okotsk. Among the Swedes who opened it is mentioned Henry Busch. According to Muller, who met with him at Yakutsk as late as 1736, he was born at Hoorn, in Holland. He gave Muller the following account of his first voyage across the Sea of Okotsk.

After arriving at Okotsk they built a vessel resembling the *lodjas*. This vessel was strong; its length was eight and a half fathoms, its breadth three fathoms, the freeboard when the vessel was loaded, three and a half feet. The first voyage took place in June, 1716. They wintered at the river Kompakova. During the winter the sea cast up a whale which had in its carcass a harpoon of European manufacture and with Latin letters. The vessel left the winter-haven in the middle of May (new style), 1717, and was for five and a half weeks beset by ice-fields. In the end of July

they were again back at Okotsk. From this time there has been regular communication between this town and Kamchatka.

Peter the Great, during the last years of his life, arranged one of the greatest geographical expeditions which the history of the world can show. It was not until after his death, however, that it was carried out, and then it went on for a series of years on so large a scale that whole tribes are said to have been impoverished through the severe exactions of transport that were, on this account, imposed on the inhabitants of the Siberian deserts. Its many different divisions are now comprehended under the name *The Great Northern Expedition*. Through the writings of Behring, Muller, Gmelin, Steller, Krascheninnikov and others, this expedition has acquired an important place for all time in the history not only of geography, but also of ethnography, zoology and botany; and even now the inquirer, when the natural conditions of North Asia are in question, must turn to these works.

The Great Northern Expedition was ushered in by the first expedition to Kamchatka. The commander of this expedition was the Dane, Vitus Behring, who was accompanied by Lieutenant Morton Spangberg, also a Dane by birth, and Alexei Chirikov.

They left St. Petersburg in February, 1725, and took the land route across Siberia, carrying with them the necessary materials with which in Kamchatka to build and equip the vessel with which they should make the voyage of exploration. More than three years were required for the voyage, or, rather, for this geographicocientific campaign. It was not until the 16th (4th) of April that a beginning could be made at Nischni Kamchatskoj Ostrog of building the vessel, which was launched on the 21st (10th) of July, and on the 31st (20th) of the same month Behring began his voyage. On the 21st (10th) of August St. Lawrence Island was discovered, and on the 26th (15th) of the same month the explorers sailed past the northeastern promontory of Asia, in $67^{\circ} 18'$, and observed that the coast trends to the west from that point. Behring, on this account, considered that he had fulfilled his commission to ascertain whether Asia and America were separated, and he now determined to return. It was during this voyage that the sound which has since obtained the name of Behring Strait is considered to have been discovered; but it is now known that this discovery properly belongs to the gallant hunter Deschnev, who sailed through these straits eighty years before. Several statements by Kamchadales regarding a great country towards the east on the other side of the sea induced Behring, the following year, to sail away in order to ascertain whether this was the case.

In consequence of unfavorable weather he did not reach the coast of America, but returned, after which he sailed to Okotsk, where he arrived on August 3d (July 23d), 1729, whence he went to St. Petersburg, which he reached after a journey of six months and nine days.

In maps published during Behring's absence Kamchatka had been delineated with so long an extension towards the south that this peninsula was connected with Yezo, the northernmost of the large Japanese Islands. The distance between Kamchatka and Japan, rich in wares, would thus have been quite inconsiderable.

This nearness was believed to be further confirmed by another Japanese ship manned by seventeen men and laden with silk, rice and paper, having stranded, in July, 1729, on Kamchatka south of Avatscha Bay. In this neighborhood there was, along with a number of natives, a small party of Cossacks, under the command of Schtinnikov. He at first accepted several presents of the shipwrecked men, but afterwards withdrew from the place where the wreck took place. When the Japanese, on this account, rowed on along the coast, Schtinnikov gave orders to follow them in a baydar and kill them all but two. The cruel deed was carried into execution, on which the malefactors took possession of the goods and broke in pieces the boats, in order to obtain the iron with which the boards were fastened together. The two Japanese who were saved were carried to Nischni Kamchatskoj Ostrog, and sent to St. Petersburg, where they learned the Russian language, while some Russians learned the Japanese. The Japanese, who were both from Smetua, died between 1730 and 1739. Their vessel had been bound for Osaka, but having been carried out of its course by a storm, had drifted about at sea for six months, stranding at length, with so unfortunate a result for the greater part of the crew. Schtinnikov was hung for his crime.*

CHAPTER XXXV.

The Voyage of Marco Polo, 1291—Jewish and Egyptian Types among Indians in America—The Voyages of the Norsemen (860–1000 A.D.)—Their Route to America—Their Relics on Baffin's Bay—The Voyage of Leif Eireksen—The Viking Vessel of Gokstad, Norway—The Voyage of Captain Magnus Andersen on the Viking, 1893 A.D.

IT has been shown that the northern coast of Asia is inhabited for twenty degrees of longitude west of Behring Strait—from Chaun

* "Voyage of the Vega," by Baron Adolf Erik Nordenskiold.

Bay to Behring Strait; that the eastern shore of the strait is also inhabited, and the coast on that side for several degrees north of the strait; that intercourse exists, and has existed, between the inhabitants of the eastern and western shores of the strait; that the northern coast of Asia has been inhabited for hundreds of years; in fact, it is not known how long it has been inhabited beyond the existence of the present evidences of its habitation centuries ago. From these facts there is reason to believe that intercourse has existed between the inhabitants of the north-western part of North America and the northeastern part of Asia ever since these parts have been inhabited. And there are reasons to believe that China and Japan in remote ages had intercourse with America.

Kublai-khan, the Grand Khan of all the Tartars, and fifth in succession from Ghengis-khan, reigned in the city of Kambalu, the capital of Cathay, or China, when Marco Polo arrived there about the year 1273 or 1274. It happened, while Polo was there in the service of the Grand Khan, that the wife of Argun, sovereign of India, died, about 1287. Argun deputed three of his nobles, attended by a numerous retinue, as his ambassadors to the Grand Khan, with request that he might receive at his hand a maiden to wife from among the relatives of his deceased queen. Under the directions of the Grand Khan, choice was made of a damsel aged seventeen years and extremely handsome and accomplished.

The ambassadors having left with Kagatin—such was the name of the bride—and travelled by land for eight months, found their further progress obstructed, and the roads closed against them by fresh wars that had broken out among the Tartar princes. The ambassadors were therefore constrained to return to the court of the Grand Khan.

About the time of their reappearance at Kambalu Marco Polo happened to arrive from a voyage he had made with a few vessels under his orders to some port of the East Indies—probably the island of Sumatra and other islands of the Indian Archipelago. The three ambassadors, having learned of this voyage of Polo, and being extremely anxious to return to their own country, from which they had now been absent three years, obtained from the Grand Kahn permission that Marco, as being well skilled in the practice of navigation, might convey them and the bride by sea to the kingdom of Argun. Preparations were accordingly made for the equipment of fourteen ships, each having four masts and capable of being navigated with nine sails. Among these vessels there were at least four or five that had crews of two hundred and fifty

or two hundred and sixty men. On them were embarked the ambassadors, having the queen under their protection, together with Nicolo, Maffeo, and Marco Polo.

After a navigation of about three months they arrived at an island which lay in a southerly direction named Java. Taking their departure thence, they employed eighteen months in the Indian seas, having had to wait for the change of the *monsoon*, before they were enabled to reach the place of their destination in the territory of King Argun.

The place where the expedition ultimately arrived is not directly mentioned in any part of Marco Polo's travels, but there are strong grounds for inferring it to have been the celebrated port of Ormus.

The fleet had left the Peho, or river of Peking, about the beginning of 1291. Between the day of their sailing and that of their arrival at Ormus they lost by deaths of the crews of the vessels, and others who had embarked, about six hundred persons; and of the three ambassadors only one survived the voyage, whilst of all the ladies and female attendants only one died. This mortality was not greater than might be expected in vessels crowded with men not accustomed to voyages of such duration, and who had passed several months at an anchorage in the Strait of Malacca; and, although it should have amounted to one-third of their whole number, the proportions would not have exceeded what was suffered by Lord Anson and other navigators of the seventeenth and eighteenth centuries.

It is impossible, says Barrow, not to consider the notices given by this early traveller (Marco Polo) as "curious, interesting, and valuable, and, as far as they regard the empire of China, they bear internal evidence of their being generally correct."

This voyage of about fifty-five hundred miles was made two hundred years before Columbus discovered the New World. Had Marco Polo on this occasion directed his course northward to the Aleutian Islands and then westwardly, he would have reached North America in a much shorter distance and with much less delay and difficulty than he reached the Persian Gulf; and, considering this, and the value placed upon furs and peltries, it is probable that Japan and China, with their immense resources, had commercial relations with the New World long before it was discovered by Columbus, or even by the Norwegians.

It is not known who were the first inhabitants of America, but there are evidences that it was inhabited many thousands of years before the Norwegian or the Genoan landed upon its shores—thousands of years before the Toltecas, Chechemecas and Aztecas

emigrated from the north to Anahuac. It was from the north that the several nations came, one after another, to settle in the country of Anahuac. It is only through the monumental remains of the remote nations that inhabited America that any knowledge of their progress in arts and civilization can be acquired. As to who they were and whence they came will remain probably forever unknown. But in approaching nearer to modern times, the period of history, the knowledge of ancient nations, their manners, customs, religion and commercial intercourse bring new aids to investigate the relations of the more recent inhabitants of America, found here four hundred and ninety-two years ago, with those of the Old World.

The Abbe Brasseur has the following in his "History of the Civilized Nations of Mexico:"

"After all that we have just shown we believe that it would be superfluous to analyze longer the numerous opinions which have been hazarded upon the migrations of antiquity to the American continent. The common resource of the passage of the twelve tribes of Israel led captives by Salmanazar has been employed by a great number of writers. We would not, however, deny, in a positive manner, that there were not Israelites in America before the fifteenth century; we are persuaded to the contrary, only we reject every system which has for its aim to make the ancient American civilization the special apanage of any one nation whatsoever, African, European or Asiatic. We have had, besides, too often an opportunity of admiring among the Indian population of Mexico or of Central America Jewish or Egyptian types. More than once, likewise, we have observed in these countries profiles like to that of the King of Juda, sculptured among the ruins of Karnac, and seen Indians in their proud nudity resembling the beautiful Egyptian statues of the museums of the Louvre or of Turin. A crowd of foreigners, French, Belgian, German, and English, have remarked with as much surprise as I, in certain Gautemalian villages, the Arabic costumes of the men and the Jewish customs of the women of Palin and of the borders of lake Amatitlan as perfect and as beautiful as in the pictures of Horace Vernet. We will not enter further into the system of Ordony and of Juarros, who alike give the Egyptians and the Phœnicians for the ancestors of the Toltecas and the Mexicans as well as for the founders of the Planque. These systems anciently adopted by Siguenza, whose manuscripts we have seen at Mexico, and by other writers, are not supported by any positive historic data. The passages of Diodorus, of Sicily, and of Aristotle on the sub-

ject of the Carthaginian expeditions, although very curious, and giving an appearance of foundation to these systems, are not conclusive. We, therefore, will not reject the possibility of the voyages of the ancients to America. Humboldt quotes on this subject an extremely curious passage from Plutarch. It is a query in terms perfectly clear and precise of a great transatlantic continent and of a mysterious foreigner, arrived from this distant country of Carthage, where he dwelt several years about two or three centuries before the vulgar era.

But none of these conjectures are equivalent to the historic proofs which the Scandinavians have preserved of their navigation to Greenland and other parts of the American continent." As the facts in regard to the important events have a close relation to the populating of North America and to the probable ancient intercourse between the two hemispheres, it is proper to give here a particular account of them.

The distance between Norway and Greenland is about eleven hundred and fifty miles,* and within this distance are two clusters of islands, and the great island called Iceland, which is three hundred miles in length from *east* to *west*, and two hundred in its greatest breadth, having an area of thirty-nine thousand square miles. This island is five hundred miles from Scotland, six hundred from Norway, and two hundred and fifty from Greenland. It was discovered in the year 860 by a Norwegian sea-rover named Noddodr, who was accidentally driven upon the coast while on a voyage to the Faroe Islands. A few years afterwards a Swede named Gar-dar circumnavigated the island. In the year 874 it was colonized from Norway, the leader of the emigrants being Ingolf. In the course of half a century its coasts were well-peopled, and among the population were several Scotch and Irish families.

Beside the great island of Iceland there are two clusters of islands, the Shetland Islands and the Faroe Islands. The former are forty-four leagues west of Bergen, the nearest point of Continental Europe. Foula, one of the islands of this cluster, seventeen miles west by south of the nearest part of its own mainland, is the

* As the distance of Iceland from Norway is six hundred miles, and the island three hundred miles in length from east to west, and two hundred and fifty from Greenland, the sum of these distances, eleven hundred and fifty miles, is probably the distance from Bergen, in Norway, to Greenland. The Norwegians at that time possessed the Orkney Islands, to the north of Scotland, from which islands it is probable the distance to Greenland would be ten hundred and fifty miles, Scotland being one hundred miles nearer to Iceland than to Norway, the Orkney Islands being still nearer than Scotland.

Ultima Thule of the ancients. The Scandinavians, from whom descended the principal inhabitants of these islands, landed here probably at or before the sixth century, and found shelter in the numerous *voies* and tortuous friths for their piratical vessels. Remains of the forts of the Vikings still abound in these islands.

The Faroe Islands are about the same distance from the Shetland Islands that these are from Norway. The appearance of the Faroe Islands, whether approached in fine or bad weather, is inconceivably grand. Nothing can exceed the sublimity of the scenery.

The Faroe Islands, like the Shetland and Orkney, are composed of a few large and thinly-peopled islands. The surface is almost everywhere hilly, with bold headlands and heights over two thousand feet in Stromo and Ostero, culminating with the Sclattarelindur (twenty-seven hundred and fifty-six feet in height), on the north coast of Ostero. The islands are largely volcanic. The people of the Faroe Islands, which were discovered by the Norwegians in the ninth century, are of Norwegian origin.

From Iceland rises, to the height of four thousand five hundred and thirty-two feet, the famous volcano, Heckla, which has ejected ashes to the height of sixteen thousand feet, and volcanic dust has frequently been borne by the upper air-currents so as to fall upon the Faroe Islands, and has even been carried in considerable quantities as far as Norway on the one side and the north of Scotland on the other.

Volcanic mountains appear beyond the limits of the uplands in the peninsulas. One of the loftiest summits is the Snaefells-Jokull (four thousand seven hundred and two feet in height), a perfect cone, at the extremity of the peninsula on the north side of Faxa Bay, its snow-crest forming a prominent landmark.

On the east side are several peaks over three thousand feet in height, whose sharp outlines are visible at a great distance, towering above the surrounding fogs. The Oraefa-Jokull, the culminating point of the island, is six thousand four hundred and ten feet high.

The mean axis of the volcanic zone runs from the east side of the Vatna-Jokull table-land westwards to the Reykjanes headland. Along this line are several craters, of which the best known is Hekla, or "Cloak Mountain" (five thousand and ninety-five feet high), so named from the clouds of vapor in which its crest is so frequently wrapped.

The Katla or Kotlugja, southernmost of the Icelandic volcanoes, and thirty-six miles southeast of Hekla, with which it is often

confounded, has vomited ashes and torrents of water fifteen times since the year 900, but no lava within the historic period. In recent years there have been frequent eruptions on the north side of the Vatna-Jokull, the most violent of which occurred on March 29th, 1875, when the snowfields on the east side of the island were covered with a layer of pumice reduced to impalpable dust. Towards the east the heavens became almost pitch-dark at noon, and a strong westerly gale wafted the ashes across the Norwegian snows and even to the neighborhood of Stockholm, eleven hundred and eighty miles from the centre of activity—the greatest distance on record.

Although its northernmost peninsulas project into the Arctic Zone, Iceland is not the last land of the North Atlantic. The plateau on which it rests is continued northeastward towards the Norwegian waters, terminating with a sort of headland which rises above the surface to form the elongated island of Jan Mayer, immediately beyond the Beerenberg or Bear's Mount, rising to a height of six thousand three hundred and seventy-two feet. At its northeast end the water suddenly sinks to great depths.*

It is thus seen that these islands were as stations, and their towering mountains as sea-marks for the voyagers on their way to the western world. The dust of the volcano made known to Scotland and to Norway the existence of a land in the far west, and the flames of Hekla served as a pharos to light them to it. It was probably by degrees that they advanced to it, first to the Shetland, then to the Faroe cluster, and thence to Iceland.

After Iceland had been inhabited nearly a century by a hardy, daring and skilful seafaring people, its inhabitants pushed their discoveries still further to the west, and in 972 reached Greenland, where a colony was established which subsisted there until the fifteenth century, when, or about which time, a material change for the worse occurred in the climate of Iceland, where, it is said, corn formerly grew, by which change Greenland was occupied by an unusual accumulation of ice. After this nothing more was heard of the Greenland colonies. How they perished is not known.

The old Icelandic Sagas state explicitly that colonies of Northmen existed on the shores of Greenland from the close of the tenth to the beginning of the fifteenth century. From that period to the middle of the last century nothing more was heard of them. But in 1721 a Norwegian clergyman prevailed on the King of

* *Elisee Reclus.*

Denmark to form a new settlement on the west coast of Greenland. Since the establishment of this colony numerous vestiges of the ancient one have been discovered—urns, implements, fragments of church-bells, Runic inscriptions and ruined edifices. These numerous vestiges of the former colonies scattered along the east coast of Baffin's Bay are doubly interesting and important, for they not only confirm in the most striking manner the authenticity of the Sagas in regard to Greenland, but warrant the conclusion that those that tell of the discovery of the American continent are equally trustworthy.*

It was from Greenland that the continent of North America was discovered about the year 1000, when Leif, son of the Norwegian Eerek, surnamed the Red, who had discovered Greenland, fitted out in Greenland a vessel with every requisite for a long voyage. Leif proceeded southward, and on the coast beyond Cape Cod erected some booths, where he spent the winter. The accounts given of this locality, which he called *Vinland*, Wineland, suits the coast in the neighborhood of the island Martha's Vineyard, on the coast of the State of Massachusetts.

After passing the winter here, and loading their vessel with timber and their boat with grapes, they sailed in the spring for Greenland.

In this account of this expedition of Leif there is no mention of Indians having been seen. But when Thorwald, the brother of Leif, visited, in the year 1002, the same place, he went out in the summer of 1004 to explore the coast to the eastward, and, coming to a finely-wooded headland, went on shore with all his followers. As they were preparing to go on board they observed three canoes, or *seal-skin* boats, drawn up on the beach, under each of which were three Skrællings, as they were called by the Northmen. Of the nine they killed eight, one escaping in his canoe.* It appears that then they fell into a profound sleep on shore, from which they were aroused by one of their company, who had observed a fleet of canoes approaching. Upon the alarm they hastened to their vessel. "Shortly afterward they saw a number of canoes filled with Skrællings coming from the interior of the bay against them." So violent was their assault that, to protect themselves, the Norsemen raised battle-screens on the ship's side, but the Skrællings, after discharging volleys of arrows and shouting for awhile, left. Thorwald, however, had been mortally wounded by an arrow under the arm.

* Mallet's "Northern Antiquities."

This appears to have been the first encounter between Europeans and the natives of North America, and shows that the country, when first visited from the eastern hemisphere, nearly a thousand years ago, was inhabited by a people who appear to have been much like those who now inhabit Alaska.

It is known, from ancient manuscripts, that a custom prevailed among the Norsemen throughout the later centuries of paganism, in Scandinavia, of burying men of note with their ships. Divers ship-tombs have been discovered, and the vessels found very considerable in size, ranging from boats to sea-going ships. In the year 1880 there was found at Gokstad, Norway, in a mound where, according to tradition, a king had been buried with his treasures, a ship in excellent preservation, which was safely gotten out by the aid of the Antiquarian Society in Christiania. Here, at last, the actual character of vessels belonging to the Viking period was brought to light.

This ship was not quite new when it was interred, as some wear can be found on the rudder and oars. It was built of oak, and measured, on the keel, sixty-six feet; from outside to outside, between fore-and-aft, seventy-eight feet; amidship it is sixteen and one-half feet broad, and at the same point four feet in depth, from top of bulwark to the keel: each planking has ornamental mouldings.

Just as in the Roman ships, there are port-holes in its sides to receive the oars. They are set in the third plank from the top and midway between the knees. There are sixteen in each side, through which slits are cut to pass the oar-blades. To prevent the influx from the sea through the ports, when there was no rowing, they were protected on the inside by a circular oak shutter. The mast, of which there was only one, was set in an opening in a large oak block fixed above the midframes of the vessel. The sail was of a square form, made of frieze, or common canvas.

"The olden times knew of only one kind of a rudder, which had its fixed position somewhat before the stern-post, on the right side of the vessel. The helm consisted of a plank in the shape of an oar with a wide blade, which a little way down was fixed to the ship by means of a rope, whilst its round upper neck was caught by a grummet, and a square hole in a right angle with the blade was made for the tiller in the upper part of the neck. The rudder was also slightly mounted with iron."

Every ship had its own boat, which, when the vessel put to sea, was taken on board. The crew consisted of a master, mate, and the oarsmen. There was no deck to the vessel.

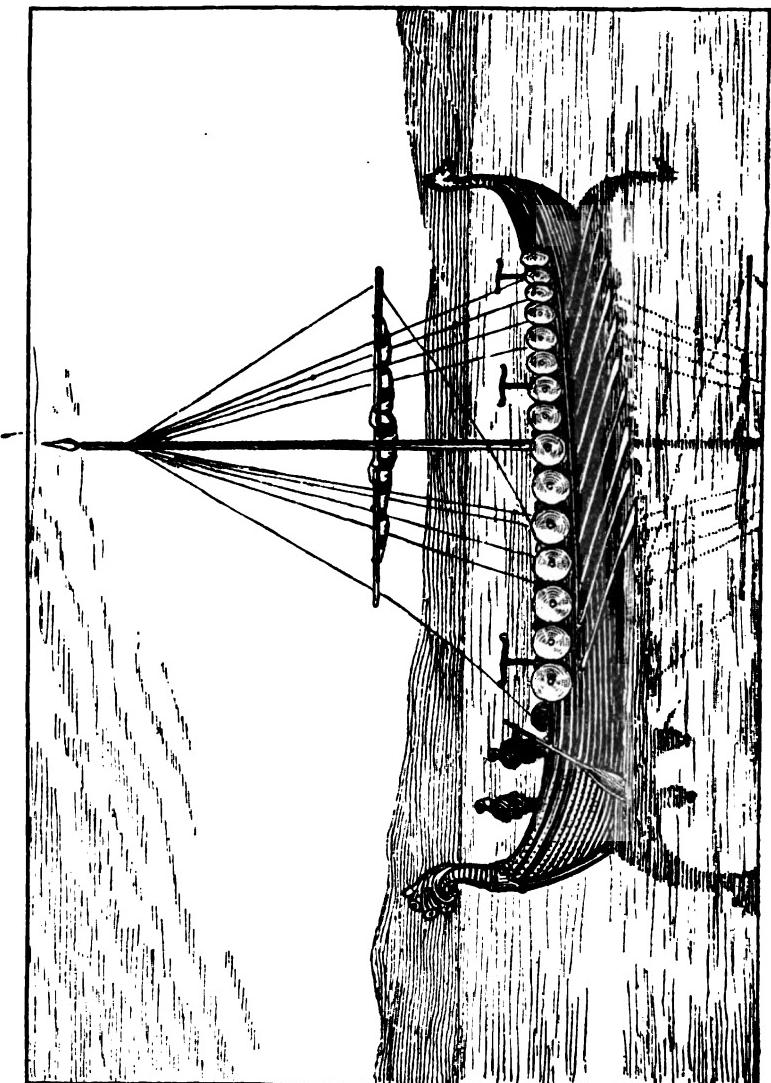
When the Columbian Exposition at Chicago was prepared in celebration of the discovery of America by Christopher Columbus, the pride and patriotism of the Norwegians were aroused, and they determined to send to this Exposition a model of the old Viking ship of Gokstad [22], and demonstrate to the world, by their own daring achievement, how their ancestors discovered America nearly a thousand years ago.

Captain Magnus Andersen, with whom originated the idea of sailing a Viking ship across the Atlantic, applied to some leading men in Norway for their assistance, and a few gentlemen in Christiania were elected a committee to make a national undertaking of it, and they issued invitations all over Norway to support the scheme. Thus support came from every part of the world where Norwegians were residing; rich and poor, high and low, old and young, even the little school-children gave their saved-up cents; in fact, all gave their share with a cheerful heart. The ship was built at Sandefjord, true in every detail and dimensions to the old ship, and, once on the water, her standard went to the top, flying the name of "Viking," whilst hundreds of men were ready to become one of her crew.

The voyage of the Viking from Bergen, in Norway, to New London, in the State of Connecticut, deserves a particular notice, as it illustrates the navigation of antiquity, and proves not only the ability of vessels of that period to make long voyages, but the actual fact of their achievement. The following is a brief sketch of the most important part of the particulars of this remarkable voyage:

In the month of April, when the Viking left Christiania, the capital of Norway, all the residents were down by the fiord to bid the ship and her twelve men on board "farewell"—best wishes of a "safe voyage, and kind regards to our brethren in America," rang through the air, with no end of cheers from the natives on the surrounding hillsides—a sight carrying with it, as it did, such intense feeling of joyful, national pride never to be forgotten by any of those who witnessed it. Yet the same thing occurred at every place where the Viking called on her way round the coast to Bergen, and it certainly reached its climax that beautiful Sunday morning, the 30th of April (1893), when the Viking left her moorings at the capital to go to sea.

A fresh northwesterly wind carried the ship swiftly along, and soon brought her out of sight of land. The next day brought changeable wind, with rain, which continued on for a couple of days, until on the 5th of May, after having passed the Shetland



THE VIKING.

Islands, a southerly gale sprung up, with very heavy sea. The sails had to be reefed, and pumping or bailing was kept up all day and night, as the vessel was taking great quantities of water forward, at times, especially about noon, when the sea had become extremely boisterous, and threatened to fill the ship; but she behaved splendidly on the tops of the mighty waves, and proved herself a good sea-boat, well worthy the confidence that had been placed in her. The rudder on the side was in every way most satisfactory, and during the storm it was proven beyond a doubt that its action was as perfect as any of our modern steering gears, and the men at the rudder had no difficulty in handling it. The following day the storm was settling down, and a fresh southerly wind filled the Viking's sails, while the sea had quieted down to such an extent that hardly a drop of water got on board. On Monday, the 8th of May, the wind changed to northerly, with a sea rolling heavily. The next evening a strong gale of wind prevailed with a heavy sea. The wind had changed in the morning to southwest, and kept on growing in strength, until at eleven o'clock it became necessary to reef, and at noon a terrific storm was raging, with mountain-high seas, which seemed to reach a climax at four o'clock, when sails were made fast, and the sea-anchor had to be put out, and by the aid of oil bags the ship was kept steady in the wild play of the waves. Towards evening the storm began to calm down, to the delight of all on board, as little rest had been found during the day in their soaked clothes. About noon the next day the sea-anchor could be hauled on board, and the square sail with three reefs hoisted to hurry the Viking along before a southerly wind, through the still somewhat heavy sea.

During the following week the Viking experienced comparatively fair weather, and everything went on splendidly. The 17th of May, the Norwegian independence day, was a grand day on board. Favored with the finest weather that could be desired, the ship was doing her ten miles (per hour?), and everybody on board was in the best of humor. The 17th of May in Norway is what the 4th of July is to Americans.

Nothing important occurred until Sunday, the 21st of May, when, just as dinner was served out, the man on the lookout reported "A steamer ahead." The steamer proved to be the Amerithia, of Glasgow, whose commander, Captain Crayton, courteously undertook to forward the letters and telegrams of the Viking.

The next few days the wind varied, partly accompanied by fogs, and on the 24th of May the steamship Accides, of Glasgow, was passing, exchanging signals. Fog and icebergs were now begin-

ning to trouble the Viking, and the thermometer was several times approaching zero, but fortunately everything went all right until Saturday, the 28th of May, when Cape Spear was sighted. A towboat from St. Johns came out to the Viking, which had been taken for a dismasted schooner. The captain of the tug (Mr. Cross) most obligingly undertook to mail the Viking's letters and telegrams. On the following Monday Cape Race was passed, twenty-nine days after leaving Bergen.

The next two weeks went by slowly, on account of very little wind, and it was not until Sunday, the 11th of June, that land was sighted, south of Cape Cod.

Words cannot express what the men on board the Viking felt as they now for the first time sighted the United States. History came back to them in all its vividness; Leif Erickson's deeds flashed through their minds, and there he stood, all alive, before them, and suddenly they knew they had been the means of proving what was recorded in the Sagas was actually correct and true, and what they had done was only what their forefathers had done before them.

In a strong wind and with all sails set the Viking commenced to beat down the coast in company with a number of coasting vessels, and it did not take long to find out her superior sailing qualities, as she was gaining on many of her companions, who were wondering how this copy of a thousand-years-old ship could be such a seaworthy vessel that she could beat the modern constructions in sailing, even with the wind ahead. The following Monday morning the Viking passed through Nantucket Shoals and down through Vineyard Sound, which was passed in the thickest of fogs and during the night, and it was only by the aid of soundings and the fog-horn that the "1893 Viking" safely found her way, so that she, on the 13th of June, could sight the Newport land, and the same afternoon she arrived at New London harbor, where her anchor was dropped at 5.30. As the anchor went, there is no doubt a feeling of ease arose in every man's breast on board the Viking, as now was, practically, the dangerous part of their voyage at an end, and, taken on the whole, their task had not been of such a terrible nature as had been painted by most people at the outset. It is true every seeker of comfort will not find much on board the Viking to gratify his cravings for what he terms necessities of life, but the Vikings were, nevertheless, very well pleased with the simple and modest luxuries given them.

Their sleeping arrangements proved most satisfactory, though there was no room for any bunks to be fitted up, and each man

had to look out for his own place where to lie down to rest. His bed consisted of an oil-skin bag, into which was put a reindeer-skin, and on the top of this was placed a bag made of three blankets, into which the man crept, thus splendidly protected against cold and water.

Even in the bad weather they experienced across the ocean, it was no difficulty for the steward to have all meals ready at the fixed hours and served in first-class condition, and what certainly speaks for the cook is that he, in fine weather, gave all on board a treat by baking fresh bread.

From New London all the way up to Chicago the Viking met with one endless greeting of welcome. To pencil all the receptions, banquets and honors bestowed upon Captain Andersen and his men would fill volumes, and it must suffice to say that never did any nation receive a foreign representative more royally than the welcome the American people extended to the little Viking. It may truly be said that never before did Norse blood make such a claim on its descendants as when the Viking ship arrived at and passed through American waters.*

CHAPTER XXXVI.

Ancient Navigation—Navies, Vessels, Voyages, Crews—The Shipwreck of St. Paul—Egyptian and Indian Ships, their Construction and Navigation—Carthaginian Navigation—Ancient Naval Architecture.

FOURTEEN hundred years before the voyage in which Leif Erickson discovered America the ancients constructed vessels similar to those of the Vikings, and others much larger and stronger.

It is the general opinion that in the Homeric age sailors did not venture into the open sea, but that such was really done is clear from the fact that Homer makes Ulysses say that he had lost sight of land, and saw nothing but the sky and sea, although on the whole it may be admitted that even down to the later historical times the navigation of the ancients was confined to coasting along the shore.

After the times of the Trojan war navigation—and with it the art of ship-building—must have become generally improved, on account of the establishment of the numerous colonies on foreign coasts and the increased commercial intercourse with these colo-

* "Viking," by Alfred A. Holm.

nies and other foreign countries. The practice of piracy, which was during this period carried on to a great extent, not only between Greeks and foreigners, but also among the Greeks themselves, must likewise have contributed to the improvement of ships and of navigation, although no particulars are mentioned. In Greece itself the Corinthians were the first who brought the art of shipbuilding nearest to the point at which we find it in the time of Thucydides, and they were the first to introduce ships with three ranks of rowers. About the year 700 B.C. Ameinocles, the Corinthian, to whom this invention is ascribed, made the Samians acquainted with it. They must have been preceded by biremes. About the time of Cyrus the Phocians introduced long, sharp-keeled ships. These belonged to the class of long war-ships, and had fifty rowers, twenty-five on each side of the ship, who sat in one row. Before this time vessels with large, round or flat bottoms had been used exclusively by the Ionians, in Asia. At this period most Greeks seem to have adopted the long ships, with only one rank of rowers on each side. Their names varied accordingly as they had fifty, thirty or even a smaller number of rowers.*

The Athenians had intimate commercial relations with some of the cities on or near the Cimmerian Bosphorus, and Herodotus himself, who was born 484 years B.C., visited the Palus Meotis, or Sea of Azof, by passing through the Pontus Euxinus, or Black Sea, which shows how extensive was the navigation of the Greeks at this remote period.

"The first Greek people who acquired a navy of importance were the Corinthians, Samians and Phocians. About the time of Cyrus and Cambyses the Corinthian triremes were generally adopted by the Sicilian tyrants and by the Corcyrans, who soon acquired the most powerful navies among the Greeks. In other parts of Greece the most common vessels about this time were long ships, with only one rank of rowers. Athens did not obtain a fleet of any importance until the time of Themistocles (514 to 449 B.C.), who persuaded them to build two hundred triremes. But even then ships were not provided with complete decks covering the whole of the vessel; a complete deck appears to have been an invention of later times. Pliny ascribes it to the Thasians, and before this event vessels had only small decks at the poop and the prow."†

The various kinds of ships used by the Greeks are classed by Pliny according to the number of ranks of rowers employed in them, as moneres, biremes, triremes, quadriremes, quinquiremes,

* Anthon.

† Homer, 907 B.C., mentions decked vessels.

etc. All these appear to have been constructed on the same principle, and it is more convenient to divide them into ships of war and ships of burden. The latter were not calculated for quick movement or rapid sailing, but to carry the greatest possible quantity of goods. Although they were not without rowers, yet the chief means by which they were propelled were their sails.

The most common ships of war, after they had been generally introduced, were the triremes. Triremes were divided into two classes, the one consisting of real men-of-war, which were swift sailing-vessels, and the other of transports, either for soldiers or for horses. Ships of this class were not used in battle except in cases of necessity. The ordinary size of the war-galley may be inferred from the fact that the average number of men engaged in it, including the crew and marines, was two hundred, to whom on some occasions as many as thirty *epibatae** were added. The rapidity with which these war-galleys sailed appears to have been so great that even we cannot look upon it without astonishment when we find that an ancient trireme nearly equalled that of a modern steamboat.

Vessels of more than three banks of oars were not constructed in Greece until about the year 400 b. c., when Dionysius of Syracuse built the first quinquireme, with which he had probably become acquainted through the Carthaginians, since the invention of these vessels is ascribed to them. After the time of Alexander the Great the use of vessels with four, five, and more ranks of rowers became very general, and it is well known from Polybius that the first Punic war was chiefly carried on with quinquiremes. Ships with twelve, thirty, and even forty ranks of rowers appear to have been mere curiosities, and did not come into common use.

In the year 356 b. c. the Athenians continued to use nothing but triremes, but in 330 b. c. the Republic had already a number of quadriremes. The first quinquiremes at Athens are mentioned in a document belonging to the year 325 b. c.

Boekh has calculated that each trireme on an average had one hundred and seventy rowers. In a quinquireme, during the first Punic war, the average number of rowers was three hundred; in later times we find even as many as four hundred.

Most ancient ships had but one sail, which was attached with the yard to the great mast. In a trireme, too, one sail might

* Epibatae were entirely distinct from the rowers, and also from the land soldiers. They were, probably, heavily-armed men. They were appointed to defend the vessels in the Athenian navy.

be sufficient, but the trierarch* might nevertheless add a second. As each of the two masts of a trireme had two sailyards, it follows that each mast had two sails, one of which was placed lower than the other. The sails of the Attic war-galleys, and of most ancient ships in general, were of a square form.†

When we consider the remote time at which Crete and Cyprus were settled, and the relation of these islands to Egypt, there is reason to believe that in the earliest times of ancient history there were communications of these two islands with the great centre of ancient civilization in the West of the Old World, and that even at that period navigators sailed from these islands through the Mediterranean beyond the sight of land until they reached their destination on the mainland.

The Phœnicians founded Carthage at what would have been considered in those days an enormous distance from the mother country. It is hardly to be believed that such a maritime nation, that had circumnavigated Africa, crawled along the western and southern coasts of the Mediterranean to reach their colony or to reach Tarsis.

The Carthaginians had colonies on the island of Malta, on Sicily, Sardinia, the Balearic Isles, besides on the coast of Spain. To reach these colonies the Carthaginians necessarily launched forth into the Mediterranean and sailed direct to their destination.

Egypt and Mauritania were the granaries of Rome. From Alexandria and Carthage this grain was transported direct through the Mediterranean to its destination, and necessarily the vessels must have sailed out of sight of land.

Paul sailed from Cæsarea, in Palestine, in a ship of Adramyttium, in Mesia, going northward to Sidon; from Sidon the vessel went to the island of Cyprus, because the winds were contrary. The thirty-fifth degree of latitude passes through the centre of the island. From Cyprus he went to Myra, in Lycia, a little north of the thirty-sixth degree, where the Centurion, who had charge of him and other prisoners, went with them on board of a ship of Alexandria bound for Italy, where, after sailing slowly for many days and scarcely come opposite the island of Cnidus, they sailed under the island of Crete between the thirty-fifth degree and thirty-sixth degree latitude, opposite Salmone, and hardly passed it when they came to a place called Fair Haven, nigh unto the city of Lasea, on the south side of the island of Crete, which is between the thirty-fifth degree and thirty-sixth degree of latitude.

* Captains of triremes.

† Anthon's "Dictionary of Greek and Roman Antiquities."

Now much time was spent, and the sailing dangerous, and because the haven was not commodious to winter in, the most of them advised to depart thence and endeavor to reach Phenice, a haven of Crete, and winter there; but when they thought they had obtained their purpose they sailed close to Crete, but not long after there arose against them a tempestuous wind, against which the vessel could not bear up, so they went before the wind, running under a certain island called Clauda, and so being exceedingly tossed by the tempest, they lightened the ship, and the third day cast out the tackling of the ship, and when neither sun nor stars appeared in many days, and the tempest continued, all hope was lost; but when the fourteenth night was come, as we were driven up and down the Adriatic, about midnight the sailors deemed that they drew near land, and sounded and found twenty fathoms, and when they had gone a little farther they sounded again and found fifteen fathoms. Then fearing lest they should strike against rocks, they cast four anchors out at the stern and waited for day; and when the sailors, under pretence of casting anchors forward, had let down the boat into the sea, in order to escape, the Centurion ordered the soldiers to cut the ropes of the boat and let it fall off. They then lightened the ship and cast out the wheat into the sea, and when it was day they knew not the land, but they discovered a certain creek into which they determined, if possible, to thrust the ship; therefore when they had taken up the anchors they hoisted the main sail, made toward the shore, and ran the ship aground. The forepart stuck fast and remained immovable, but the hinder part was broken by the violence of the waves. Then the Centurion commanded that they who could swim should leap into the sea and swim to shore. The rest, some on boards and some on pieces of the wreck, succeeded in reaching the land, and so they all escaped, being in all two hundred and seventy-five in number. And when they had escaped they then knew that the island was Melita, the inhabitants of which showed them no little kindness, for they kindled a fire and received everyone kindly, because of the rain and cold. In the same quarter were the possessions of the chief man of the island, whose name was Publius, who received and lodged them three days courteously, and when they departed loaded them with such things as were necessary. After three months they left in a ship of Alexandria, whose sign was Castor and Pollux, which had wintered on the island. They landed at Syracuse and remained there three days; thence, making a circuit, they went to Rhegium, and thence to Puteoli.*

* *Acts of the Apostles, xxvii. and xxviii.*

Puteoli, or Pouzzoli, about three miles from Naples, is on the Bay of Baia, a branch of the Bay of Naples, where the great bridge, said to have been built by Caligula across this bay, formed a secure and closed harbor. Some of the abutments of this bridge still exist, and in the hills surrounding this harbor are still to be seen the massive foundations of great edifices that once covered their sides and crowned their summits. Here was the great naval depot of the Roman empire, and hence was about thirty-six hours' travel by land to Rome.

"Publius, who received Paul into his house during three days, is called by St. Luke *Prote* of the Island. This term *Prote* was assumed by the first magistrates of the Phoenicians and the Carthaginians, from whence the Maltese, who were a Phœnician colony, had borrowed it. It is wherefore we still see an inscription where the first magistrate of Malta is called *Perote des Miletians.*"*

It is to be observed, in this account of St. Paul's voyage, that the two hundred and seventy-five shipwrecked persons were put on board the vessel from Alexandria, who, with the crew of that vessel, made probable a total of at least four hundred persons, thus indicating the size of that vessel.

It is also to be observed that the ships of those times did not travel during the winter, but hibernated three or four months, thus showing why their voyages were so long between points that required a year or more of navigation.

It appears from this account of Paul's voyage that his ship was for many days tossed about by the tempest, being driven by it from near the centre of the southern coast of Crete to Malta, a distance of ten degrees of latitude; and the whole management of the vessel, in finally running it aground, shows that nautical skill in those days was much the same as it is now, and that the navigators of those days did not timidly sail closely to the shores, but through the Mediterranean Sea from island to island on the way to their destination.

The Egyptians must have been acquainted, at a very early period, with the three principal sorts of vessels which, sooner or later, prevailed in every country intersected by large rivers and washed by the sea. Irrigated by the periodical inundations of the Nile, bounded on the north by the Mediterranean and on the east by the Red Sea, and bordering on Phœnicia, the active, enter-

* Translation into French of the inscription, which was in Greek: "Dissertation Historique et Critique sur la Naufrage de S. Paul," par M. l'Abbe Lavo-
cat, Bibliothecare de Sarbonne.

prising genius of whose people spurned the petty interest of a coasting-trade and braved the tempest on the coast of Africa and the Grecian Archipelago ; Egypt, industrial, commercial, and ambitious, could not but possess, in the first instance, an extensive river-navigation, and shortly afterwards a mercantile marine, together with vessels adapted for war when she found reason to fear the hostile attacks of armed rivals on her cargoes of provisions or of manufactured goods, and perceived that invectives of aggression or the instinct of defence were fortifying by warlike methods the foreign vessels which frequented her shores for trade, thus extorting concessions from the fears of the weak and claiming respect from the strong by means of military prowess.

It is difficult to determine from what era dates the maritime commerce of Egypt, or when their mercantile vessels were first armed in warlike guise, except so far as we may indulge conjectures founded upon the oral recitals received by Herodotus from the priests of Vulcan at Memphis. But these are so vague, and have so many palpable fables wearing the semblance of truth, that their authority cannot possess much weight. It is beyond belief that no fleets were equipped during the obscure period which extends from Menes to Meris, and includes the reigns of three hundred and thirty kings, or, according to Larcher's calculations, about eleven thousand years. Either Egypt must have been a small, weak, powerless State, or else it could never, for so long a time, have continued in a state of maritime inaction. Either its neighbors must have made aggressions upon its territory and caused it to arm its vessels in its own defence, or otherwise, being itself actuated by ambition or urged by necessity, invaded the quiet of some distant people tranquilly cultivating a fertile soil ; in either of which cases the Egyptians must necessarily have possessed a navy provided with warriors, arms, and warlike machines.

If Sesostris sailed from the Arabian Gulf with vessels of war for the subjugation of the nations dwelling on the shores of the Indian Ocean (Herodotus II.), the Egyptian navy must already have acquired, before this time, a considerable degree of importance. Nor could a people who had brought the arts, and especially mechanics, to such a pitch of perfection as is testified by their pyramids, their temples, and their extensive catacombs, have allowed their naval operations to continue in an anomalous degree of debasement so as to have neither merchant ships capable of transporting valuable and weighty cargoes nor vessels of war for the defence of their coasts against hostile attacks.

All the marine Egyptian remains at present known to us testify to an advanced state of the arts, and the most remarkable of these dates as far back as the time of Rameses IV., or about 1450 b.c. These could not have been the representation of a new state of things nor the figures they contain the results of a recent invention. The row-galleys to be seen in the celebrated bas-relief at Thebes, copied at the time of the French expedition to Egypt, are very different from the rude essays of navigation in the stage of timidity where it employs only rafts committed to the current of a stream, or, at most, ventures over the depths of a lake or broad river with the hollow trunk of a tree rudely guided by paddles.

It is not easy to form a precise idea of the Greek galleys at the time of the Peloponnesian war, but according to the best of our knowledge they were not very different from those which had been constructed by the ship-builders of Rameses IV. The bas-relief with which that monarch decorated the porticos of his palace at Thebes, with the view of perpetuating the memory of a naval battle gained by the Egyptians over one of the nations dwelling on the coast of the Indian Ocean, contains nine long vessels or galleys, four of them Egyptian and five manned by Indians. The nine ships in this bas-relief have a striking resemblance to each other. True it is, that while the Egyptians have oars, the Indians are without them. But this circumstance not only occasions no sensible difference between the Egyptian galleys and the Indian ships in the shape of the hull, the length, breadth, and height of the bulwarks, but it does not at all follow that the Indians were destitute of oars or unaccustomed to their use. They might have been shipped in order to furl the sails, or possibly they may have withdrawn their oars during the combat, in order that the rowers might take an active part in the contest, their crews being inferior in number to those of the Egyptians. Neither the Indian nor the Egyptian vessels were flat-bottomed, for it is evident that the sculptor intended to design the roundness of their *alveus* when he marked the keel, which is very distinctly curved, and at the same time he indicated in the direction of the keel and that of the line of oars in the middle of the vessel, the depth of the ship and its capacity. The length of the Egyptian galleys is rather difficult to demonstrate, but Mr. Jal seems to have obtained the result by combinations, which have great likelihood. He first ascertained the distance between the oars to be about four feet, which he calculated by the space between the rowers and the attitude of their bodies, which he observed to be the same in Mr. Wilkinson's wood-cut No. 372 as in the paint-

ing which he examined. These rowers have the same floating attitude, carrying the body forward, sitting, one foot on the bench of the fore and one on the poop-side; then throwing themselves back with all their might upon their seats, produce the greatest impulse upon the oars.

Mr. Jal distinguishes the figure of the king, who assists in the battle with the grandees of the empire, by his colossal greatness in proportion to the rest. The Indian prisoners are represented smaller than the triumphant Egyptians. The pilots, who are of the ninth class of the Egyptian populace, are pictured as very little, compared to the soldiers, who are regarded of the second class. The slingers, of whom there is one in every ship, placed in a sort of basket somewhat like an overturned bell, who assail the enemy with stones from the top of the mast, are designed of the same size as the pilots, and are only regarded as of the seventh class.

The Egyptians were the first to entertain the project of cutting an artificial canal, with a view to establishing a communication across the Isthmus of Suez, between the Mediterranean and the Red Sea. The vestiges of this undertaking are still discernible, and the universal testimony of ancient writers leaves no doubt that its execution was commenced. It is also evident that the Egyptians were the instructors in navigation of the ancient Greeks, whose excursions did not extend beyond the Mediterranean.

That the ancient Egyptian boats were built with ribs like those of the present day, is sufficiently proven by the rude models discovered in the tombs of Thebes.

The sails of the ancient boats appear to have been always square, with a yard above and below.

The cabins of the Egyptian boats were lofty and spacious; they did not, however, always extend over the whole breadth of the boat, but merely occupied the centre, the rowers sitting on either side. The lotus was one of their favorite devices, and was very common on the blade of the rudder, where it was frequently repeated at both ends, together with an eye. But the place considered particularly suited to the eye was the head or bow of the boat, and the custom is still retained in some countries to the present day. In India it is very generally adopted, and we even see the small barks which ply in the harbor of Malta bearing the eye on their bows in the same manner as the boats of the ancient Egyptians.* Streamers were occasionally attached to the pole of the

* The Chinese river-boats also have an eye on each side of the bow.

rudder, and a standard was erected near the head of the vessel, which generally had on it the figure of a sacred animal, a sphinx, or some emblem connected with religion or royalty, and sometimes the top of the mast bore a shrine of feathers, the symbol of the deity to whose protection they committed themselves during their voyage.*

There is a striking resemblance in some points between the boats of the ancient Egyptians and those of India; and the form of the stern, the principle and construction of the rudder, the cabins, the square sail, the copper eye on each side of the head, the line of small squares at the side, like false windows, and the shape of the oars of boats used on the Ganges forcibly call to mind those of the Nile represented in the paintings of the Theban tombs.

At the head a forecastle frequently projected above the deck, which was assigned to the man who held the fathoming-pole, and at the stern another of similar form was sometimes added, where the steersman sat. They were generally adopted and found of great service in war-galleys.

The galleys, or ships of war, differed, in their construction, from the boats of the Nile. They were less raised at the head and stern, and on each side, throughout the whole length of the vessel, a wooden bulwark, rising considerably above the gunwale, sheltered the rowers, who sat behind it, from the missiles of the enemy; the handles of the oars passed through an aperture at the lower part.

The sail was reefed by means of ropes running in pulleys or loops upon the yards. The ends of these ropes, which were usually four in number—dividing the sails, as it were, into five folds—were attached to the lower part of the mast, so as to be readily worked when the sail required to be pulled up at a moment's notice. In this respect, and in the absence of a lower yard, the sail of the war-galley greatly differed from that of the boats of the Nile.

Some of the boats of the Nile were furnished with forty-four oars, twenty-two being represented on each side, which, allowing for the steerage and prow, would require their total length to be about one hundred and twenty feet. They were furnished, like all the others, with one large square sail, but the mast, instead of being single, was made of two limbs of equal length, sufficiently open at the top to admit the yard between them, and secured by several strong stays, one of which extended to the prow and others to the

* The Spanish and Italian sailors of the fifteenth and sixteenth centuries put their vessels under the protection of some saint.

steerage of the boat. Over the top of the mast a light rope was passed, probably intended for furling the sail, which, from the horizontal lines represented upon it, appears to have been like those of the Chinese.

The small Egyptian galley does not appear to have been furnished with a beak like those of the Romans, which, being of brass sharply pointed and sometimes below the water's surface, did great damage to an enemy's vessel; but a lion's head fixed to the prow supplied its place, and being probably of metal, was capable of doing great execution when the galley was impelled by the force of sixteen or twenty oars.

At the extremity of the yards were braces, which, being held by a man seated in the steerage or upon the cabin, served to turn the sail to the right and left; they were common to all boats, as with the Romans, and managed in the same manner.

The mode of steering the boat is different from that usually depicted in the Egyptian paintings, and instead of a rudder in the centre of the stern or at either side, it is furnished with three on the same side.

There is no instance of a boat with a rudder on both sides, nor do we find them provided with more than one mast and a single sail. Sometimes the rudder, instead of traversing in a groove or hollow space, merely rested on the exterior of the curved stern, and was suspended by a rope or bands; but that method was confined to boats used in religious ceremonies on the river.

The masts were probably made of the fir, of which great quantities were annually imported into Egypt from Syria. The planks, the rib and the keel were of the acacia. The foot of the mast was let into a strong beam which crossed the whole breadth of the boat; it was supported by and lashed to a knee rising to a considerable height before it, and the many stout stays fastened at the head, stern and sides sufficiently secured it.

In ships of war the yard was allowed to remain aloft after the sail had been reefed, but in the boats of the Nile, which had a yard at the top and bottom of the sail, as soon as it was furled they lowered the upper yard, and in this position it remained until they prepared for their departure. To loosen the sail from the upper yard must have been a tedious operation, if it was bound to it with the many lacings represented in some of the paintings.

The use of pulleys, of which Mr. Wilkinson gives but one indication, is fully admitted and proven by Mr. Jal. The galleys were always decked, and it seems that, with the exception of very small boats, all other Egyptian vessels were decked over the hold.

The yards were evidently of great size and of two separate pieces,

and crossed or joined together in the middle, sometimes supported by five or six lifts, and so firmly secured that men could stand or sit upon them while engaged in arranging the sail, and from the upper yard were suspended several ropes resembling the "horses" of our square-rigged ships, and perhaps intended for the same purpose when they furled the sail.

Many of the sails were painted with rich colors or embroidered with fanciful devices representing the phoenix, flowers and various emblems; some were adorned with chequers, and others were striped like those of the present day. This kind of cloth, or embroidered linen, appears to have been made in Egypt expressly for sails, and was bought by the Tyrians for that purpose; but its use was confined to the pleasure-boats of the grandees or the king himself, ordinary sails being white. Mr. Jal contests the employment of the papyrus for sea-boats. He concludes the papyrus boats could have been but very small and only for light burthens, and thinks Pliny rather rashly admitted unexact reports when he wrote that the vessels of papyrus sailed to Taprobane (Ceylon), which was quite impossible.

The Egyptians, on becoming more advanced in industry, replaced the papyrus in their sails by a linen tissue made of hemp-thread and joined with small twisted strips of oxen-skin. In all ships of war the ropes then were made of hemp, instead of the fibre of the byblus, as formerly.

The custom of dyeing the sails of ships was, says Pliny, "first adopted in the fleet of Alexander the Great when navigating the Indus;*" but that it was practiced long before in Egypt is evident from the paintings at Thebes of the time of Rameses the Third, nine hundred years previous to the age of Alexander.

The edges of the sails were furnished with a strong hem or border, also neatly covered, serving to strengthen it, and prevent injury, and a light rope was generally sewn around it for the same purpose.

The oars of the galleys were, according to Mr. Jal's calculation, fifteen feet long, six feet of which were inside the galley. One end was worked into a long round handle, and the other extremity was a large flat blade, which had rather the form of a heart than of a long oval paddle.

The great length of the oars used on the upper tier by the Carthaginians must have made them very unwieldy, for the length of the oar was necessarily increased with each ascending tier, therefore it was necessary not only to place the stoutest and

* Alexander having adopted this custom when in India, it is probable he found it prevalent there.

most athletic rowers at the upper oars, but likewise to load the handles of them with lead, in order to counterbalance the great weight without. These rowers were distinct from the soldiers who fought, for rowing was esteemed a great drudgery, and was not unfrequently in ancient as in modern times the punishment of malefactors, who were chained perpetually to the benches on which they rowed.

The breadth of a galley was about sixteen feet. In the carved representation of the galley which Mr. Jal examined, there were no more than eight or ten oars on each side, forming only sixty feet of length, but he shows they were much longer. Mr. Wilkinson's wood-cut, No. 372, represents a galley of twenty-two oars, which gives it the same length of a galley of the sixteenth century. It is very probable their ships-of-war were quite as long, and had at least forty-four oar-benches, consequently we should suppose the length of these ships to be from one hundred and sixteen to one hundred and twenty feet.

Mr. Jal proves that the forecastle of the Egyptian galley was decked, and that the soldiers fought on the forecastle. As regards the anchor, Mr. Jal says: "That among all the Egyptian naval figures with which he is acquainted he could not find one object resembling an anchor." Probably they used large stones or masses of stone for the same office, which Mr. Jal believes from the following passage of Herodotus:

"They are thus guided—the boats of burden in descending the Nile have a hurdle of twisted cane and furze, and a perforated stone of about two talents weight (about one hundred-weight). The hurdle is bound with a rope in front of the ship, which is allowed to float on the course of the current. The stone is fastened behind with another rope; the hurdle carried away by the rapid stream, pulls after it the *baris*—for thus the kind of ship is called. The stone behind drags the bottom of the water and serves to guide its course." If at the time of Sesostris no other means of stopping the ships at sea or on the Nile were known, this surely must have been.

Arrian relates that in the temple of the Goddess of Phasis he was shown the anchor of the ship Argo; that it was of iron. The resemblance of this anchor with those of the cotemporary Greeks of the second century A.U.C. led him to believe that it was posterior to the expedition of the Argonauts. He adds: "That in the same temple there were very old fragments of a stone anchor, which was more likely to be the anchor of the ship Argo."

Athenæus, speaking of the celebrated ship of Ptolemy Philopater, says that "it had four wooden anchors and eight iron an-

chora." The iron anchors could have been but ingots of a considerable weight. As for wooden anchors, they were great tubes filled with lead. We read in the "Antiquities of Diodorus" that the Phœnicians, after having laden their vessels with silver in Sicily, extracted the lead from their anchors and replaced it with silver.*

Mr. Jal purposely multiplies examples to prove that the anchor was long a mass, acting merely from weight, and that even when the iron was bent to bite into the earth with a sharp tooth, and the Greeks could call it *ancura*, from the word *ancuros* (crooked), the primitive anchor was still used.

Mr. Jal says he persists in thinking that the ancient Egyptian anchor was nothing but a shapeless stone. If the mariners contemporary with Rameses III. knew of the crooked anchor, we should find it in some of the naval representations taken from the ancient monuments. Its form is such that the Egyptians would not have neglected it; besides, it was of such importance that the artist would have represented it, at least sometimes, since they always represented the fathoming-pole and the weapon of the military officer.

Mr. Jal says that doubtless the vessels-of-war had a national or royal pavilion, and that he cannot comprehend why the author of the bas-relief of Thebes abstained from setting up at the mast or at the flagstaff the Egyptian ensign, or the figure of the deity under the protection of which Sesostris surely did not fail to place his fleet when it set out for the great and perilous expedition to India. This was a detail of the highest importance, and could not have escaped the pointed attention of the artist.

Duly to appreciate the quality of the Egyptian ship of the time of Rameses IV. would require elements of which we have not, and which could not be supplied by any hypothesis which we might found upon our own knowledge of naval construction of that epoch. Herodotus tells us that in long days a vessel makes altogether seventy thousand orgies, and sixty thousand per night. According to the calculations of Lascher, the vessel made one and three-quarters of a league per hour.

Mr. Jal demonstrates that the swift galley of the seventeenth century is a faithful copy of the Egyptian galley of the fifteenth century B.C., which he thinks a fact of great importance to learned men and naval history, and confirms the old proverb that "There is nothing new under the sun," for maritime science, after

* The first Grecian vessel—a Samian—that visited Tartessus, in Spain, did the same act. These two accounts, one of Herodotus, the other of Diodorus, may be of the same event.

a lapse of more than three thousand years, was almost at the same stage as at first.

Some Egyptian vessels appear to have been of very great size. Diodorus mentions one of cedar wood, dedicated by Sesostris to the god of Thebes, four hundred and twenty feet long; another built by Caligula, in Egypt, to transport one of the obelisks to Rome. Jal does not believe in the ship of Ptolemy Philopater.

Very large ships were known in ancient times. Lucien in one of his dialogues mentions an Egyptian ship, named Isis, one hundred and twenty-six cubits long, more than thirty cubits broad, and twenty-nine cubits high from the hold to the upper deck. This colossal ship of the second century had a great affinity to a French vessel of war of the third rank. The Egyptian art was far from its infancy twelve hundred years after the great naval armament of Rameses IV.

The Phœnicians were, according to Herodotus, the first who undertook long voyages. Among the Phœnicians, Carthaginians, and Greeks, the earlier ships used in common were flat-bottomed, broad, and of small draught of water; the floor-timbers were continuous at first, and they were without a keel, having instead a strip of wood on either inside, to take the ground when stranding. Next was introduced the keel, in order to diminish the drift with a side-wind; and to increase the strength a keelson was soon added, overlaying the floor-timbers and confining them to the keel; beams were also placed aloft to hold the sides together and sustain the deck. The planking was firmly attached to the framework by means of iron nails, some of which passed through and were clinched within. When, however, the ancients discovered the tendency of the iron to rot the wood, they substituted copper. To obviate the danger of starting the plank-ends—a danger still sometimes fatal to the mariner—a piece of wood was let into both in the form of a dove-tail. Oak and pine then, as now, were the woods most in favor; chestnut and cedar were also used;* cypress, not being subject to shrink and cause leakage, was also esteemed, and elm-wood was placed in such parts as were constantly under water.

A considerable time elapsed before the Greeks entered the ocean by the Arabian Sea, the Red Sea, and the Persian Gulf, and their oceanic navigation did not commence before the death of Alexander. After that period the Greeks, and especially the Athenians and Corinthians, made maritime excursions along the coasts of Spain and Africa, in the ocean and all the Mediterranean ports, Egypt, Phœnicia, and the Euxine Sea.

* It will be seen hereafter in this book that Alexander used cedar and cypress in the vessels which he built at Babylon.

It is pretended that the Phœnicians, in their solicitude to retain the vast monopoly of trade, to which they were indebted to their enterprise and industry, not only studiously concealed the course by which they arrived at remote countries with which they traded, but if followed by strange vessels would seek to mislead them, and even risk the loss of their own vessels to effect that of their pursuers. To complete the discouragement of their commercial rivals, they plundered and destroyed every foreign vessel and crew that they met with. The earliest instance of naval warfare recorded in history is that of Erythras, a prince, who made himself master of the Red Sea and monopolized its commerce to the exclusion of the Egyptians, who were only allowed to navigate it with a single ship.*

It is a very remarkable fact that Cadmus, a Phœnician, who introduced the use of letters into Greece, came to that country at the same time that the armies of Joshua, the general of the Jews, pressed the Phœnician tribes to the sea and forced them to found colonies.†

* *Erythrœum Mare*, Red Sea, was applied by the Greeks to the whole ocean extending from Arabia to India, as far as the island of *Taprobane*, now Ceylon. They derived the name from that of an ancient monarch, Erythras, who reigned along the coasts, and they believed that his grave was in one of the adjacent islands. Afterwards the name was applied merely to the sea below Arabia, and to the Arabian and Persian Gulfs. The appellation was probably derived from Edom (*Eau*), whose descendants were called Idumeans, and inhabited the northern part of Arabia. They navigated the Red Sea and Persian Gulf, and also the Indian Ocean, and the name Idumean signifying *red*, the sea of the Idumeans was called the Red Sea and Erythrean Sea. Arrian, who quotes Nearchus, admiral, and Ptolemy, general, in Alexander's army, says of the island Organa, situated within the Persian Gulf and near the Persian shore : " It produces plenty of vines, palm-trees, and corn, and was full eight hundred stadia in length. In this island the sepulchre of the first monarch thereof is said still to remain, and that his name was Erythras, and from him the sea was called *Mare Erythrœum*." It is probable that the Red or Erythrean Sea mentioned in the text was the Persian Gulf, and the monarch who defeated the Egyptians this Erythra ; and that the Egyptians and Babylonians had maritime communication and commercial relations at the time of Ranees, Sesostris, and it is not improbable that the same relations existed at that time between Egypt and India and Babylon and India. It is not probable that the people of Babylon, then the greatest city of the world, dammed the Euphrates from *fear* of an invasion through that river ; besides every flood would have washed the dams away. It is probable that they leveed the banks of that river, and that these were the dams which historians have misrepresented.

† Anthon says : " The myth of Cadmus is usually regarded as offering a convincing proof of the fact that the colonies from the East having come to Greece introduced civilization and the arts ; an examination, however, of the legend in this point of view will hardly warrant such an opinion. Cadmus is the name of Mercury in the mysteries of Samothrace, instituted by the Tyrrhenian Pelasgi,

The little we know of the Carthaginians comes to us through their implacable enemies, the Romans. The Carthaginians, not contented with the trade of Egypt, Phoenicia, the Red Sea, Gaul, Spain, and Mauritania, and the narrow limits of the Mediterranean, stood boldly forth beyond the Pillars of Hercules, previously esteemed the *ne plus ultra* of the world, and carried their commercial enterprise to the western coasts of Europe and Africa, and even to the British Isles.

"The Carthaginians interdicted the passage to the Canary Islands, which had then but just been discovered, fearing that their people would desert their native country and go thither. They kept their discoveries secret, and refused to share them with others, so that it is quite impossible to state how far they extended. They ruled over Sicily, Malta, Goloden, the Balearic Isles, Sardinia, Corsica, and Spain. They navigated to the west of Africa as far as Cape Verd, and along Europe to the British Isles; perhaps their voyages extended even farther."—Muller.

"Ancient mariners complained of the many shallows existing in some parts of the Atlantic Ocean, and this appears to have some geographical foundation, it being well known that Plato stated a very ancient tradition of the Egyptian priest of 'a country beyond the Herculian pillars which sunk in one stormy night.' The existence of a very great continent, *as large as the whole world* (!) was not unknown to Aristotle. It is a curious fact that modern mariners have observed several shallows almost connected together from Spain over to the Azores to Newfoundland; and it is probable that the land which formerly joined the two worlds had sunk, which rendered the navigation very difficult until the overflowed soil had gradually deepened and consequently retired from the coast of Europe."—M.* †

who at the time of the Dorian migration, being driven from Beotia, settled in the islands north of the Egean. The name of Cadmus occurs only at Thebes in Beotia, and Samothrace." See article "Pelagi," Classical Dic.

* There are shallows now in the ocean, as there ever have been and ever will be. There is nothing very curious nor very strange about it; but it is surprising that the pretty little story that Plato wrote, to give an idea of what he thought the best government, should be received and entertained for so long a time and by so many persons as an actual fact, a reality. The tradition of the Egyptian priest is probably a vague memory, recollection, of a continent in the Atlantic Ocean with which the ancient communication was lost and forgotten, and that continent America.

† "The Ship—Its Origin and Progress," by Francis Steinitz, being a large work and history of vessels from the earliest times to the present century, with designs and descriptions of vessels.

CHAPTER XXXVII.

Ancient Settlements—Idumeans—Omerites—Chuseens—Eastern and Western Sabians—Arabia Felix—Ophir—Sabea—Diodorus's Account of Sabea and Sabeans—Tartessus and Tartesse of Cilicia, and of Spain—The Voyages to Tarsus from Elath and Esion-Gaber, at the head of the Arabic Gulf.

ESAU, surnamed Edom, and Jacob, surnamed Israel, are the authors of two celebrated peoples—the Idumeans and the Israelites. Edom the Red, a term which many Greek historians have translated by *Erythros*, was the father of the Idumeans who extended themselves in the valleys of Mount Seir and to the foot of Mount Pharan, to the south of the Dead Sea, and even to the Arabic Gulf. The Idumeans became a powerful nation distributed into many tribes or provinces which had for a long time their own kings distinct from those of Israel. The name Edom or *Erythros* passed to the Arabic Gulf. The Scriptures always call it the *Sea* or the *Gulf of Reeds*; but for more than two thousand years all the nations have given to it the name of *Idumean Sea* or *Erythrion* or Red Sea. Some historians have extended this name Red or *Erythrion* to all the seas which environ Arabia, which might cause some confusion in the reading of history if we were not aware of it.

Among the numerous descendants of Edom was Omar, whose children, more known to ancient authors than many other eastern peoples, left the rocks and deserts of Arabia Petria and extended themselves along the Red Sea, where they addicted themselves to commerce. The most of this nation settled in Arabia Felix, between the Sabians and the Hadramites, on one hand, and the Strait of Ocelis or Babelmandel, on the other. It is the passage from the Red Sea into the ocean. They had for their capital Marib or Mariaba, which still exists, with the same name, at the side of the country of incense and of aromatics, which is still called Hadramut or Dwelling of Death. Many writers have confounded the Sabians with the Homerites, but they were only neighbors.

The Omerites crossed the straits and made settlements in Africa, where, it is quite probable, they founded the colony of Abyssinia, which, without having ever been Mohammedan, still preserve circumcision, not as a ceremony necessary to the religion which they profess, but as a mark of the nobility of their race descended from Abraham.

Several branches of Israelites spread themselves in Egypt, where they early introduced circumcision. Other Ishmaelites penetrated into the heart of Africa, and communicated the same usage of circumcision to the Negroes.

The country of Chus, beyond the lower Tigris, to the east of its mouth in the Gulf of Persia, is still called Chusistan. But branches of the Chuseens were scattered on both sides of the Persian Gulf. The name Chuseens, Cisnens, and Chuteans (all the same word pronounced differently) was given to the inhabitants of Chusistan to the east of the mouths of the Tigris. Of the Chuseens to the west of the Tigris some were sedentary, as Hevilah, Seba, Regma, and Dedan; the others, *Scenites*, or dwellers under tents, roamed in the deserts of Arabia as far as Sur, or the Isthmus of Suez.

Those along the western coast of the Persian Gulf became skilful navigators and merchants. They went to the ports of Tyre in Phoenicia by descending through the Strait of Ormus, which is the entrance and exit to this gulf. Then, in the ocean, turning round Arabia Felix, they entered the Arabic Gulf by the Strait of Ocelis, now Babelmandel, passing before the port of Mosa, which has also been named Musa and Mosca, and left their vessels in the port of Elath, at the head of the gulf, to finish their journey by land to Tyre. Others made this journey by land; nothing was more common to the Arabs than to travel in caravans through the most arid, sandy deserts. Ptolemy places a town of Regma, or Rigama, and, immediately afterwards, a people, whom he calls Asabians, near the strait.

"The eastern Sabians, who often passed into Carmania, on the other side of the gulf, are very different from the western Sabians,* who are the true Sabians, settled with the Omerites, or descendants of Omer, at the extremity of the south of Arabia. Both of these Sabians enjoyed very nearly the same advantages. They had gold, aromatics, topaz, and other precious stones. It was from southern Sabia, which was the most famous, that the Queen of Saba came to visit Solomon. Ptolemy confirms the distinction of the two Sabias. He says: 'The Sabians are celebrated for the possession of incense, and they are distinct peoples, who inhabit (in Arabia) the borders of the two opposite seas (the Persian Gulf and the Arabic Gulf).'"

Arabia is a very spacious peninsula, having, though unequally, six hundred leagues in length by nearly as many in breadth. It has to the east the Euphrates and the Gulf of Persia, to the south

* "Eastern" and "Western" have reference to the location of the Sabians in Arabia, and not to the Persian Gulf.

the Indian Ocean, and to the west the Red Sea. All this grand region is now divided into three parts—Arabia Petria, the Desert and Yemen. Petria, which is the smallest, has retained its name from its ancient capital, Petra, which signifies *rock*, and which is the meaning of its ancient and real name, *Selaw*.

Arabia Felix, which is the most southern of the three parts, and the nearest the ocean, takes its name from its gold, pearls, precious stones, and aromatics, which enrich its different provinces. The washings of the pelicles of gold, which the rains carry from the mines, have ceased through exhaustion. But the pearls which they obtained from the rock of the island of Baherin are still the commerce of the town Elcatif. The aromatics, as the incense, myrrh, and others, as well as the odiferous or medicinal gums or resins, continue to exude from the trees which produce them, especially in the country of Hadramout, which appears to have given its name to the aromatics which they go to seek there. Arabia Felix also bears the name of Yemen, or *The Kingdom of the Right*, because the ancient Arabs of the desert in their religious ceremonies and in their astronomical observations turning always towards the rising sun, had on their right Arabia Felix.

The first settlement which Moses gives to the children of Jac-tan is from Mesa, along the route of the mountains of Saphar to the east of Mesa. Arrian indicates the same places. But either that the first letter of the word Saphar was but an aspiration, or that the pronunciation changed from one people to another, he gave to these chains of mountains Saphar, or Saphara, the name Aphar. Others have named them Ophir, or Sophir, and So-phirah.

The port of Mesa, which was on the coast of Arabia Felix, fifteen or twenty leagues below (north of) the entrance to the Red Sea, has always been much frequented in antiquity. Ptolemy knew it, and placed it, just as we have said, under the name of Musa. He places to the east of this port the Metropolis town, Saphar, in the midst of a country whose inhabitants he names Sapharites, and at the base of a chain of mountains to the east, which he names *the stairs*, or *the descent*, and which Moses calls Saphar. All these marks become so much the more certain, as at the side of these mountains is found the celebrated habitations of the Sabeans, the country of Hadramout, which still preserves its name, and that of Ophir.

There were several colonies of the name Seba, or Saba, in different parts of the Desert of Arabia and of Arabia Felix. But the most celebrated, the true Sabea, famous for its gold and for its in-

cense, is that which had Saba for its capital, towards the south or lower part of Yemen. First, it was from there that the Queen of Saba brought presents to Solomon; and moreover the Gospel, which calls her the Queen of the South, because of the situation of the Sabeans, also calls Sabea *the extremities of the earth*, because it was the most remote towards the south, at the end of the great continent, and that its coasts were bathed by the ocean beyond which they knew no more habitable countries.

The same town of Saba, or Sabe, which is found in Ptolemy, has often been called Mareb, or Mariaba, which signifies the capital. Some travellers have claimed that Saba was different from Mareb, which still exists, and that the latter was the capital of the Omerites, mingled with the Sabeans, and perhaps became masters of the country. This dispute interests us little, but it gives us occasion to remark that the colony of Saba has been disturbed by another family, or rather by a numerous nation. The Omerites, or Homerites, to whom Omar gave his name, attached themselves to commerce along the eastern shores of the Red Sea, and introduced themselves even into Sabea, where Ptolemy places them quite far into the country of the Sabeans.

The country of Hadramout, which Ptolemy puts in his map of Arabia at the side of the mountains of Saphar, and which is still found to the south of these mountains, has rather given its name to one of the children of Jactan than received it from him, for this name signifies *dwelling of death*, or *unhealthy air*, which naturally rather becomes a country than a man. The reason of this denomination comes from the fact that this country, which is the most fertile in aromatics, nourishes many very dangerous serpents; and especially because the air, charged with all these too active odors, is injurious to travellers, and fatal to those who remain there too long; from whence it happens that hurtful animals multiply there with most freedom. It is the bad air that has caused to be given to many places the name of Hadramout, or Adrumet, and especially to the celebrated town which the Carthaginians built upon their coast in Africa, opposite the southern coast of Sicily. These words, Hatfar mavet (*atrium mortis*) in Hebrew; *Datramout*, or *Adramout*, in Arabic; and *Adrumet* in Phœnician, all signify the same thing, although pronounced in three languages.

The sources of this abundance of gold which distinguished the country of Saba was the particles of this metal which the great rains and the torrents carried down from the neighboring mines to the base of the mountain of Ophir. This name of Ophir appears no

other than that of Aphar and Saphar, which the mountains in the vicinity of Saba and Hadramout bare. The name of Ophir is found rendered in Josephus, and in other ancient interpreters, by those of *Sophira* or of *Suphara*. It appears by the discourse of Eliphas,* one of Job's friends, and an Arab, as he, that this gold of Ophir was not sought by digging deep into the earth, but that it was carried down by the torrents, and that they separated it from the gravel and the earth, with which it rolled in confusion. Perhaps the name Ophir, or *Sophara* and *Sophala*, was carried afterwards to a place on the eastern coast of Africa, where they still† make a great collection of gold-dust.

Diodorus Siculus, in his description of the Red Sea, thus speaks of the country " surnamed Aldei and Gasandi, which is a country not so hot as the others adjoining it, but is for the most part moist and soft by reason of the many thick clouds carried thither by the winds. This land is naturally fertile, but lies altogether uncultivated, through the negligence of the inhabitants. They draw gold also from the mines without the help of art, howbeit not such gold as must be melted in the fire to bring it forth, but gold that is by nature pure. It is found in little small pieces, so that the dust is like a spark of fire, and the greatest as big as a nut. This gold they wear on their fingers and about their necks, with precious stones betwixt. Now, because they have abundance of it, and, contrarily, are in want of brass or iron, they exchange the one for the other with merchants."

"The next Arabians are named Carbes, and adjoining to them are the Sabeans, the most populous nation of all that inhabit Arabia the happy, and replenished with all things which we esteem to be most precious, as also with great store of all manner of cattle. In sweet odors, which are naturally produced in their country, they surpass all other regions of the world, for balsamum grows in the maritime parts thereof, and cassia likewise; so also another herb of a singular virtue, which, newly-gathered, refreshes the sight of those who look upon it, but kept awhile it loses its force. In the Mediterranean parts thereof are many goodly forests, full of trees bearing frankincense and myrrh; therein grow also palm-trees, canes,‡ cinnamon, and other such like odoriferous things whereof it is not possible to recount all the several

* Job xxii., 24.

† Pluch was born in the year 1688, died 1761; so this traffic in gold-dust, on the eastern coast of Africa, was carried on between these dates.

‡ Mere canes would hardly be worth mentioning. May it not have been sugar canes?

sorts in particular, so abundantly hath nature assembled them there together, so that the odors which come to our senses from those trees seem to be somewhat that is truly divine, and which cannot well be expressed ; and certainly such as sail in such seas (though they be far from the continent) partake in the pleasure of these sweet smells, for the winds, which in the springtime blow from the land, transport such odors to the maritime parts thereabouts ; for the virtue of these aromatics is not weak and faint, as it is here with us, but so strong and fresh as it pierces through our senses ; for that the wind, in such sort mingled with delicate savors blowing upon the sea, affects the spirits of passengers with a marvellous sweetness, and greatly avails unto health. Howbeit nature hath not given to these Sabians so pure and simple a felicity without some displeasure, but hath mingled a great deal of misery with so much bliss, for in all such their odoriferous forests there is a number of red serpents a span long which bite and hurt men mortally."

"The metropolitan city of this nation is called Saba, and is situated on a high mountain where their kings come to the crown by succession of lineage. These are held to be the richest people, not only of Arabia, but of all the world. By reason of their trading they exchange a thing of little weight with the merchant for a great sum of money, and so for this cause, as also for that they have never suffered any bad fortune or calamity, and, besides, have great abundance of gold and silver, especially in the city of Saba (where the king is always resident), all their vessels whatsoever are of gold and silver, the most of them curiously engraved ; nay their beds, tables, and stools, have their feet of silver, and all the rest of their household stuff is so magnificent and costly that it can hardly be credited. The entrance into their houses are adorned with great pillars, whereof the chapters are either of gold or silver. Amongst other things their floors, ceilings, and portals of their chambers are enriched with plates of gold and precious stones to show the marvellous sumptuousness of their houses, for everything in them shines either with gold, silver, or precious stones. Some of them are garnished with ivory and many other things of great value and esteem. Verily the Sabeans have always lived in perpetual felicity, for they have never gone about to usurp other men's estates out of ambition and avarice, which hath been the cause of many people's ruin. Not far from hence are the happy islands where towns are without walls, and their sheep are all white, whereof the ewes are naturally without horns. To these islands do merchants resort from all parts of the world, *but most of*

all to the city of Potana, which Alexander built at the mouth of the river Indus."

Javan, Jaon, Jon are different pronunciations of the name which this son of Japheth bore, who was the father of Tarshish, Elishah, Kittim, and Dodanim,* authors of as many celebrated colonies. Their first sojourn was Asia Minor. Tarshish did not quit it; he stopped between the Taurus, the Amanus, and the Mediterranean Sea. He built there the town Tartessus, or Tarsis, the capital of Cilicia. The river Cydmus, upon which it was situated, and the sea, which was not far from it, made Tarsus commercial. It traded particularly with the Cypriots, whom it had before it, with the Syrians and the Phœnicians which it had near on the left of the river.

It had afterward an offshoot of the same name, a new Tartesse or Tarsis built by the merchants of Cilicia and of Phœnicia, at the extremity of Andalousia, in Spain, towards the little island of Cadiz, and the strait of the same name, now the Strait of Gibraltar. The Phœnicians had nothing more at heart than the commerce of the river Beatis, in Spain, which is now called Guadaluiver. They found there a good business in gold, silver, tin, fine woods, and good wines. They had near the mouth of the river, where was Tartesse, an island of refuge where they put all their merchandises of Asia and Spain in security. It is what caused them to give to the island the name of Gadar, *enclosure, retreat*, a name which was altered and changed to that of Gades. The Cilicians gave to a neighboring town the name of their capital, but history shows us the Phœnicians there always as masters, and as the principal merchants. This new Tarsis effaced the other and became the source of the riches of Sidon. When they would speak in Syria of constructing or equipping a great sea-vessel, a vessel of long course, they said *Equip the ships of Tarsus*. They went, in fact, to new Tarsis by the entire passage of the Mediterranean. They went there, also, by leaving the ports which the Phœnicians had on the Red Sea, and in navigating round Africa, then in returning by the Mediterranean, or in repassing again along the coasts of Africa and re-entering into the ports of Elath or Esion-Gaber, at the head of the Arabic Gulf. They trafficked advantageously with the savages of these coasts in carrying to them in the first route the merchandises of Asia, and in the return the merchandises of Spain. The last voyage of Tarsis was celebrated, and of three years' duration.

The Phœnicians for this reason gave to the Beatic the name of

* Genesis x., 4.

Hesperides, which in their language signifies *the great part, the excellent lot*. It was for this enterprise that there were strong vessels and great preparations. It was therefore not surprising that the great fleets bore the name of a place very distant; which did not become Tarsis of Cilicia, which was but a very short distance from Sidon and from the coast of Syria.

CHAPTER XXXVIII.

Ancient Voyages—Canaanites, or Sidonians—Voyages from Elath and Esion-Gaber to Tarsis—Josephus on Solomon and Hiram—Phœnician Colonies—Diodorus's Description of Iberia—Diodorus on the Country of Elath and Esion-Gaber, and the Sinus *Ælaniticus*—The Phœnicians and Carthaginians—Nechoes—His Canal—Phœnicians Sail from the Red Sea around Africa to Egypt—Commerce between Egypt and India—The Voyage of Scylax from India to Egypt.

THE children of Canaan have, apparently, like the other families issued from Ham, wandered a long time in the deserts of Arabia before settling, as they did, on the borders of the Mediterranean, which they called the Great Sea, in apposition to the Reedy Sea, or Arabic Gulf, which did not then bear the name of Red Sea.

The descendants of Sidon have always remembered having dwelt on the borders of the Red Sea before their entry into Phœnicia. What is certain is that some of these Canaanites, or Sidonians, have always lived upon the northern borders of the Red Sea; and that even in the times when the Idumeans and afterwards the kings of Judea owned the ports of Elath and Esion-Gaber the Sidonians always had intercourse with them, maintained sailors and vessels there, rendered themselves useful to all their neighbors by the voyages which they made, not only along the Arabic Gulf, but even beyond the Straits of Babelmandel and along the coasts of the ocean.*

In the times of Solomon the cities of Atsioum-Gaber (Esion-Gaber) and Ailath (Elath) were highly-frequented marts. The Idumeans, from whom the Jews only took their ports at intervals, must have found in them a great source of wealth and population. It even appears that they rivalled the Tyrians, who also possessed a town, the name of which is unknown, on the coast of Hedjaz, and the city of Faran, and, doubtless, El-Tor, which

* Pluch.

served it by way of a port. Atsioum-Gaber and Ailath that, in the time of Solomon and Hiram, were the busy marts of commerce, have now no shipping and carry on no kind of commerce.* Thus showing how places now desert and gloomy with the silence of solitude may once have been populous and prosperous.

The Phœnicians were not satisfied with the profits they could make along the coasts of the Mediterranean ; they also made voyages to Beatica or the south of Spain by passing through the Red Sea and the ocean. They thus went round all Africa and re-entered, either by the Mediterranean into these ports of Tyre and Sidon or by repassing around Africa, into those of Elath and Esion-Gaber. This last route was for them the most advantageous. The gain of this course, which was of three years, appeared so brilliant that Solomon and some of his successors, having no marine upon the Mediterranean, established one in the ports of the Red Sea. The Jews, aided by the Phœnicians and sometimes joining their fleet to that which the kings of Tyre had upon the Red Sea, learned the route to Ophir, and afterwards, passing beyond, doubled the southern cape which we call Good Hope, and followed the coast to the Strait of Cadiz. If they did not return by the Mediterranean, it was not because they had not good ports upon their coasts ; it was, above all, because they made immense profits in exchanging with the foreigners the merchandise of the East on their first passage, and afterwards in exchanging, on their return along the same coasts, the merchandise of Beatica.

The voyage to Ophir depended often upon that of Tarsis, but the one was not the other. Sometimes they went to seek the gold of the New Ophir, which was upon the eastern coast of Africa, and this voyage was quite short. Sometimes they made the tour of the whole continent, going to Cadiz and to Tarsis, which were at the entrance of Spain, and returning from thence by the same route, in making again the circuit of Africa, in order to double their profits, and to re-enter their port of Esion-Gaber. This was the long voyage, which was of three years' duration.†

The civil wars which occurred under Rehoboam interrupted the maritime voyages which Solomon had undertaken. The efforts of Jehoshaphat and of Ozias, who wished to resume them, were not fortunate. Repeated storms in the Red Sea ruined their fleets even in their ports, and after this event the Jews mingled no more in foreign commerce.

* Volney's "Syria."

† 2 Chronicles, viii., 17-18 ; 1 Kings, ix., 25, 26, 27, 28 ; x., 21, 22, 27 ; Ezekiel, xxvii., 12, 22, 25.

This famous Tarsis of Andalusia is now no more. The principal causes which attracted there the merchandise of Asia no longer exist, but there is nothing better attested in history than this commerce.*

Josephus says:—"Moreover the king (Solomon) built many ships in the Egyptian Bay of the Red Sea, in a certain place called Esion-Gaber; it is now called Berenice, and is not far from the city of Elath. This country belonged formerly to the Jews, and became useful for shipping, from the donations of Hiram, king of Tyre, for he sent a sufficient number of men thither for pilots, and such as were skilled in navigation, to whom Solomon gave this command: That they should go along with his own stewards to the land that of old was called Ophir, but now the Aurea Chersonesus, which belongs to India, to fetch him gold; and, when they had gathered four hundred talents together, they returned to the king again.

About the same time (the visit of Sheba) there was brought to the king from the Aurea Chersonesus, a country so called, precious stones and pine trees, and these trees he made use of for supporting the temple and the palace.

Now the weight of gold that was brought home was six hundred and sixty-six talents, not including the sums which were brought him by the merchants, nor what the toparchs and kings of Arabia gave him in presents, and he contrived that all his furniture of vessels should be of gold, for there was nothing then to be bought or sold for silver; for the king had many ships that lay upon the sea of Tarsus. These he commanded to carry out all sorts of merchandize unto the remotest nations, by the sale of which gold and silver were brought to the king, and a great quantity of ivory, and Ethiopians and apes, and they finished their voyage, going and returning, in three years' time."†

Strabo places this ancient Tartesse at the mouth of the Beatis, now Guadalquivir. Stephen of Byzantium, as Strabo, placed it at the mouth of a river, which he calls by the same name, in a country which he calls Tartesside, which they also named Beatica, and afterwards Andalusia. The silver, tin and other merchandise which for so long a time attracted the Asiatics, is often found cited conjointly with the names of Tartesse and Tarsicum in Polybius and in Pliny, in the Latin historians and in the poets, who make brilliant descriptions of it. Homer placed there the Elysian Fields. After the Carthaginians the Romans finished with glean-ing the ruins of Tarsis. There remains nothing there but ex-

* Pluch.

† Josephus.

hausted caverns, and sometimes earthen lamps, with some implements of the miners.

We can add to the Phoenician colonies those of the Carthaginians who went from Tyre. They possessed much of Sicily, where they had Lelibeum and the neighboring towns, the little island of Malta, all Sardinia, the Isle of Corsica, all of which have preserved their ancient Phœnician names, and the Balearic Isles, which are now Majorca, Minorca, and Ivica. They derive their names from two Phœnician and Hebrew words, which signify masters in the use of the bow, and in fact the Greek and Latin writers have related prodigies of their dexterity with the bow.*

Diodorus mentions the island of Pityusa, so called from its pine trees. It is distant from the Herculese Pillars three days' sailing; from Africa a day and a night; from Iberia one day. It hath a city called Enesus, a colony of the Carthaginians, and is inhabited by Phœnicians. This colony was brought thither a hundred and sixty years after the building of Carthage.

There are also other islands opposite to Spain, by the inhabitants and the Romans called Balearic, from the casting of a sling wherewith the inhabitants sling stones more directly than other people. Their weapons are three slings; one they wrap about the heads, the other about the middles, and the third they hold in their hands. In battle they sling far greater stones than others do, with that force that one would believe they were shot out of some engine. At the assault of cities none can peep out of their works from the walls but they wound them with their stones, and in fight they dash to pieces shields, head-pieces, and all kinds of armor. They dart their stones so directly that they do scarcely ever miss the mark.

The following from Diodorus confirms what has been said of the mineral wealth of Spain in ancient times:

"The mountains of Iberia (which were called the Pyrenian) divide Gallia from Iberia, and extend themselves through Celtiberia three thousand furlongs. Having many woods in them, it is said that certain shepherds cast fire into them, and by that means all those hill-countries were burned, whence they affirm that these mountains were called Pyrenai. The fire lasting many days, several streams of silver came flowing down from the mountains by the force of the flames. The inhabitants not knowing what it was, the merchants of Phœnicia (giving in exchange for it some trifling things) carried it into Greece and Asia and other countries, where they became very rich, for they were so greedy of it that

* Pluch.

when they had loaded their ships therewith they took the lead from off their anchors and put in the silver, which remained in the place thereof.

The Phœnicians being enriched by this market, they distributed several colonies into Sicilia and the neighboring islands, and into Lybia, Sardinia, and Iberia.

The Iberians (at last coming to know what silver was) gave themselves to the getting of metals, and having gotten abundance of excellent silver they made great advantage of it. Whereas gold, silver and brass are the principal metals, they who are employed in getting of brass have for themselves a fourth part of what they dig; they who dig the silver receive for three days an Euboic talent, for all the land is stuffed with silver, so that it is a wonder to see both the nature of the country and the continual labor of the workmen, for those who most busied themselves in getting of metals became very rich, for the silver is easy to come by, the country affords such plenty of it.

Although there be many things in finding out this art of metals worthy of our wonder, yet let us not marvel why none are of later invention, but were all of them found out by the Carthaginians when they inhabited Iberia; hence it was that they afterwards became so powerful, for with their silver they hired the best soldiers and managed several wars against their enemies. They brought the Romans, the Sicilians, and the Lybians into great straits, although they made use neither of their own countrymen nor of their confederates to fight for them, for they were richer than all of them, by reason of their abundance of gold and silver.

Afterward, when the Romans had conquered the Iberians, they undertook for their gain to work the mines, and were much enriched thereby, for they set abundance of purchased slaves to work in the mines, who, searching up and down for the veins of the metals, dug out plenty of gold and silver, undermining the ground for several furlongs.

In Spain they that dig metals meet with more than they expect, for by reason of the happiness of the soil they find clots full of gold and silver, for all the grounds abound with them. They sometimes meet with rivers running under ground whose course (in hopes of gain) with great labor they cut off, and, which is more strange, they turn them another way by those which they call Egyptian pumps, invented by Archimedes when he went into Egypt. By these kind of instruments (with a great deal of art and diligence) do they drain the mines whence the metals are digged, casting the water upwards.

The slaves who are employed about these metals bring to their masters an incredible gain; many of them laboring night and day take so much pains that they kill themselves, for they allow them no rest or intermission in their labor, but force them by stripes to labor continually, whence it happens that they seldom live long; yet some of them that are of strong bodies and vigorous spirits do continue a great while in that calamity, who, notwithstanding (such is the miserable condition of their being) do rather wish for death than life.

There is, likewise, tin growing in several places of Iberia, not found casually, as some writers have affirmed, but digged out there and forged as silver and gold, for above Lusitania they dig out tin in the islands next adjacent to the Iberian Ocean, which from tin are called Cassiterides, yet most of it is brought out of Britannic into that part of France which lies opposite to that island. Thence the Celtic merchants carried it with horses by land through Marsellias to the city of Narbona, a colony of the Romans, the best mart in all these parts either for convenience or for benefit of those who come to it.*

Diodorus, in his description of the Red Sea and the countries bordering upon it, describes the harbors of Elath and Esion-Gaber. He says: "From the city of Arsinoe, in sailing along by the continent on the right hand, there is seen in the plain country a green mountain reasonably high, and at the foot of the mountain is a lake hard to pass over. Near thereunto is a great gulf named Acathartus, wherein there is a peninsula† of a narrow passage, which points out to sailors the way to the other coast of Arabia.

Beyond the said strait there is an island called Opiades, five leagues in length. The next shore to the said island is for the most part inhabited by Ichtheophages and by the Troglodite shepherds, from whence forward are nothing but mountains even to the port of Sotera. From the port of Sotera they cross into Arabia by a sea and region far different from the other coast whereof we have spoken; for that country is low and plain, without any mountains, nor is the sea there above two fathoms and a half deep, and is in color marvellously green, because the bottom of it is all covered over with sea-grass. That place is very proper and commodious for the navigation of small vessels, being subject to no tempests; but great ships, wherein elephants are carried, as

* From an English version of Diodorus, by H. C. Gent, 1653.

† Peninsula probably should be strait. This strait appears to have been a channel, between an island and the main shore, which led from one branch of the Red Sea to the other.

well for that they draw much water of themselves as because they are deeply laden, are in great danger; for they are oftentimes tossed by the winds and driven against great rocks, or carried into that shallow sea. The country is altogether desert and uninhabited. Besides all these difficulties and perils, the flowing of the waves of the sea brings in a short time so much sand to the ships as it is environed as with a rampire.

In this region there are many rivers descending from the mountains called Prebie, and many spacious plains abounding with palm-trees of a marvellous height. The sea whereunto you afterwards descend is very deep, in which there are whales of an immeasurable greatness.

These uttermost parts of the *Troglodites* are environed with mountains named Psevara; all the rest of the coast on the other side towards Arabia from the Altars which Ariston, a gentleman sent by Ptolemy to discover as far as the ocean, caused to be set up there in honor of Neptune, is called Neptunium. And all the length of this, so renowned Maritime Region, is named Phenicia, from the great abundance of Palm Trees growing there, which produce most excellent fruits.

The neighboring country lying directly to the south is full of fountains. There are so many springs and streams of water that the earth is thereby always clothed with fresh green grass. There is, moreover, a temple there, anciently built of hard stone, whereon are *antique letters inscribed, which one cannot read nor understand.* In this temple is a man and a woman, who all their lifetime have charge of the sacred things that are there. In sailing from this country of Phenicia straight forth to the continent there is an island named the Island of Wild Beasts, whereon there is such an excessive number of them as is strange and marvellous. The *Promontory* which is seen from this island reaches to the place called *Petra*, and joins to the countries of *Arabia* and *Palestine*. To this island, do they say, the *Gerrhei** and the *Menei* bring incense and other odoriferous gums from the higher Arabia. The rest of all this shore was possessed first by the *Maranei* and afterwards by their neighbors, the *Garyndai*, who usurped the same. That done, they divided among themselves their (the *Maranei*) country, which was now void of husbandmen to till and sow the ground, and of all that were to keep and look to the cattle. There are few ports in this region, but it is divided by several mountains.

Parting from hence, they sail through the *Gulf of Elanita*, which is full of villages and habitations of the *Arabians*, surnamed *Na-*

* On the Persian Gulf.

bathēi, who possess a great part of the shore, and some lands within the continent, where are great store of men and cattle. These Nabathei lived in times past well and justly, being contented with the sustenance which their cattle furnished them abundantly, but afterwards, when they turned pirates, and robbed the merchants of Alexandria sailing that way, with no less inhumanity than those of the Mare Major named *Tauryens* used to do, they were at last defeated and taken by certain galleys, suffering deserved punishment for their misdeeds.*

Next unto the former is a champaign and moist country, where, by reason of the abundance of springs that are in it, *Lotan* grows to the height of a man ; and the fertility of it is such as it abounds, not only with an infinite number of sheep and cattle, but also with herds of wild camels and of red and fallow deer.

Adjoining hereunto is a large arm of the sea, two-and-thirty leagues broad, or thereabout, which is naturally shut and closed up with many great rocks, and therefore hard to pass, for there is a mighty huge rock, reaching far into the sea, which keeps ships from coming in or going out, so that none pass into it but such as in storms are carried, at full sea, by the force of the winds and waves, over that rock. The people which inhabit this coast are called Banizomines, and have no other way of living but by hunting ; yet is the most holy temple, which all the Arabians celebrate with much superstition, in their country.

Not far from the Banizomines are three islands, which have many ports. In the first of them, that is altogether solitary and desolate, are old foundations of a house made of stone, and with pillars, whereon are engraven *strange and barbarous letters*, which they say were set there in honor of Isis. The other two are likewise uninhabited, but fruitful of olives, somewhat different from ours.

Beyond these islands the sea is full of broken rocks for the space of thirty-two leagues, and there is not in it any haven, port or other place where one may cast anchor, so that, any tempest coming, the seamen must of necessity suffer shipwreck. There is hanging over this sea a high, precipitous mountain, at the foot of which are divers hollow caves, whereto the waves of the sea entering upon a storm yield a sound as dreadful as thunder. The Arabians who dwell on this shore are named Thomudei.

* "The Nabatheans are, in histories and geographies, placed in the vicinity of the ports of Elana, or Elat, and Eion-Gaber, at the northern extremity of the Gulf of Arabia, sometimes to the east of Palestine, sometimes to the south. Their life, commonly, was not sedentary ; the most of them camped or traded, and changed their dwelling."—PLUCH.

Next to this perilous sea is a great gulf full of little islands, and all along the shore are huge heaps of black sand dispersed here and there. A little lower down is a peninsula where is *one of the best ports that is written of in any history*, called Charmulta, for under a rock which lies directly to the west the sea surpasses all others for goodness and profit. Over it is a very goodly mountain containing above six leagues. The entrance into the said port is fourscore fathoms broad, where two thousand ships may ride. Moreover, there runs into it a great river, and in the midst of it is an island full of good water and apt for gardening. To conclude, it is like the port of Carthage, called Cothonum. It is withal replenished with all kinds of fish, which resort thither from the main sea for food. *The sailors know it by five high mountains, which are discerned afar off, separated one from another, and pointed like the pyramids of Egypt.*

The arm of the sea is from thenceforward round, and environed with great promontories, in the midst whereof a little long hill rises up, in the form of a table, upon the which are three marvellous temples consecrated to the honor of certain Gods unknown to the Greeks, however very much reverenced by the inhabitants."

Such is probably a description of Ælanitticus Sinus, the eastern branch of the Red Sea, in which branch were Esion-Gaber and Elath, the ancient ports of the Phœnicians. The temples here erected to gods unknown to the Greeks were probably Hebrew temples, for the Greeks were not ignorant of the Phœnician gods.

Different circumstances often determined the Phœnicians to establish elsewhere new colonies, several of which have become very celebrated. Sometimes their frequent returns to the places where they transacted the most business disposed the natives of the province to permit the Phœnicians to settle there among them, preserving separately their language and their laws. Everywhere they carried with them abundance, and provided the country with everything. It was thus that they founded the famous Carthage in Africa, opposite Sicily. Sometimes the smallness of their territory obliged them to send abroad their too numerous progeny, who obtained willingly or by force a favorable location, and formed there new settlements at the side of the preceding. It is what occurred in the progress of all those bands that built Adrumet, Clypæ, Utica, and so many towns in the environs of Carthage. These Carthaginians carried everywhere economy, the love of labor, and the spirit of traffic. They ceased not to be prosperous until they became more military than commercial. At other

times, pressed on land by the attacks of a powerful enemy, these Canaanites boarded their vessels, abandoned their country, and went to seek fortune elsewhere, as happened to the Canaanites driven away by Joshua, and particularly to the inhabitants of Tyre, when they saw themselves unable to hold out against Nebuchadnezzar and against Alexander.

We are entirely certain that they were Canaanites who have peopled the coasts of Little Africa, or of Africa proper, opposite Sicily, and a good part of Sicily itself. On all the coast of Carthage, on that of Mauritania as far as the Strait of Cadiz, they generally speak the Punic or Tyrennian language, which resembles in nearly every respect that of the Hebrew.*

The Egyptians possessed a navy six hundred and ninety-one years before the Christian era, and such was its commerce at that time that Necho, son of Psammiticus, commenced a canal to connect the River Nile with the Red Sea. The water entered it from the Nile a little above the city of Bubastis; it terminated in the Red Sea not far from Patumos, an Arabian town. *They began to sink the canal in that part of Egypt which is nearest to Arabia. Contiguous to it is a mountain which stretches towards Memphis, and contains quarries of stone. Commencing at the foot of this, it extends from west to east through a considerable tract of country, and, where a mountain opens to the south, is discharged into the Arabian Gulf.* From the northern (Mediterranean) to the southern, or, as it is generally called, the Red Sea, the shortest passage is over Mount Casius, which divides Egypt from Syria, from whence to the Arabian Gulf is a thousand stadia. The way by the canal, on account of the different circumflexions, is considerably longer. The length of this canal is equal to a four days' voyage, and it is wide enough to admit two triremes abreast. In the prosecution of this work under Necho no less than one hundred and twenty thousand Egyptians perished. He at length desisted from the undertaking, being admonished by an oracle that all his labor would be turned to the advantage of a barbarian; and it is to be observed that the Egyptians term all barbarians who speak a language different from their own.

As soon as Necho discontinued his labors with respect to the canal, he turned all his thoughts to military enterprises. He built vessels both on the Northern Ocean (Mediterranean) and in that part of the Arabian Gulf which was near the Red Sea. Vestiges of his naval undertakings are still to be seen (says Herodotus). His fleets were occasionally employed, but he also by land con-

* The Abbe Pluch.

quered the Syrians.* After a reign of seventeen years Nechoes died, leaving the kingdom to his son Psammis.

When the vastness of this undertaking is considered, the inference is that the commerce of Egypt at that date must have been very important on the Red Sea, and what follows appears a sufficient evidence of it. "Nechoes was the first person who proved that the whole of Lybia (Africa), except in that particular part which is contiguous to Asia, was surrounded by the sea; for, when he had desisted from his attempt to join by a canal the Nile with the Arabian Gulf, he dispatched some vessels under the conduct of Phoenicians with directions to pass by the Columns of Hercules, and, after penetrating the Northern Ocean, to return to Egypt.† These Phoenicians, taking their course from the Red Sea, entered into the Southern Ocean: on the approach of autumn they landed in Lybia, and planted some corn in the place where they happened to find themselves; when this was ripe and they had cut it down, they again departed. Having thus consumed two years, they, in the third, doubled the Columns of Hercules and returned to Egypt. Their relation may obtain attention from others, but to me it seems incredible; for they affirm that, having sailed round Lybia, they had the sun on their right hand."‡

This great canal, conceived and begun by Nechoes, was afterwards continued by Darius Hystaspes, and finally finished by Ptolemy Philadelphus. The size of the canal indicates the size of the vessels that were to pass through it, and shows that even at the time of Nechoes triremes navigated the Red Sea; and it is probable that, even at that day, navigators were acquainted with the monsoon, and that their vessels were wafted by them from the shores of Arabia, through the Erythrian Sea, to those of India. It is more probable that the Arabians or the Indians first discovered these winds, which blew on their shores, than that a Greek or Roman,

* It was Josias, king of Judah.

† It appears, from what follows, that the Phoenicians reversed the order of things, and started from the Red Sea.

‡ Thus was the southern extremity of Africa doubled about twenty-one hundred years before De Gama accomplished the same feat in 1497. It is worthy of notice that the time employed in this voyage was the same as that of the voyages in the time of Solomon and Hiram. As Herodotus says, Nechoes was the first to prove that Lybia, or Africa, was surrounded by the sea, excepting the Isthmus of Suez. He must have been ignorant of the previous voyages of the Phoenicians around it. These voyages of the Phoenicians in the time of Solomon appeared to have required three years, "*in going and returning*,"—probably should be three years in going and in returning, which would make the voyage from Elath to Tarsis of the same duration as that of Nechoes's voyage.

living on the borders of the Mediterranean, had discovered them. About the year 509 b. c. Darius, son of Hystaspes,* being desirous of enlarging his dominion eastward, in order to the conquering of those countries, had a design of first making a discovery of them ; for which purpose, having built a fleet of ships at Caspatyrus, a city of the river Indus, and as far up upon it as the borders of Scythia, he gave the command of it to Scylax, a Grecian of Caryandia, a city of Caria, and well skilled in maritime affairs, and sent him down the river to make the best discoveries he could of all the parts that lay on its banks on either side, ordering him for this end to sail down the current until he should arrive at the mouth of the river ; and that then, passing through its mouth into the Southern Ocean, he should shape his course westward, and that way return home ; which orders he having exactly executed, he returned by the Strait of Babelmandel and the Red Sea, and on the thirtieth month after his first setting out from Caspatyrus landed in Egypt at the same place from whence Necho, king of Egypt, formerly sent out the Phœnicians to sail round the coasts of Africa, which, it is most likely, was the port where now the town of Suez stands, at the hither end of the Red Sea. And from thence he went to Susa, and there gave Darius an account of all the discoveries which he had made. After this, Darius entered India with an army, brought all that large country under him,† “and became master of that ocean.”

“ It is stated that after the foundation of Alexandria the Indian trade was almost entirely carried on by the merchants of that city. Few ships, however, appear to have sailed from Alexandria till the discovery of the monsoons by Hippalus, and the Arabians supplied Alexandria, as they had previously done the Phœnicians, with the products of India.” It is more than probable that Scylax, during the reign of Darius, made his voyage from the mouth of the Indus to Egypt by means of the monsoon. Nearchus, during the reign of Alexander, made his voyage from the mouth of the Indus to that of the Euphrates by the monsoon, and the Arabians here spoken of either shipped their Indian products from the ports of that country or were supplied with them by Indian vessels from those ports. It thus appears that before Hippalus navigators used the monsoons of the Erythrean Sea. Diodorus says vessels from all parts of the world resorted most of all to Potana, built by Alexander, at the mouth of the Indus.

* Ascended the throne 521 b. c.

† Prideaux, “ Herodotus.”

CHAPTER XXXIX.

Alexander Prepares to Leave India—The Voyage of Nearchus from the Indus to the Euphrates—The Ichthyophagi—Whales—The Coast of Susa—Alexander Sails up the Tigris—Alexander at Babylon—His Great Naval Preparations and Grand Scheme, Expeditions and Colonies—Ptolemy Philadelphus—The India Voyage and Trade.

AT the time of Alexander's reign (336 to 324 b. c.) the inhabitants of the borders of the Indus were a seafaring people and built triremes, and even from remotest historical times the Indians were a seafaring people, and had early commercial maritime relations with the inhabitants of the Indian Archipelago.

When Alexander had made ready on the banks of the Hydaspes many biremes and triremes, with several vessels for carrying horses, and all other things necessary for conveying his army, he resolved to sail down the river till he came into the ocean. The number of triremes which composed a part of his navy was, according to Ptolemy,* about eighty, but the whole number of vessels, those employed for horses and others built then as well as before, amounted to nearly two thousand. The rowers and pilots of his vessels were carefully chosen out from among the Phoenicians, Cyprians, Carians and Egyptians who followed his army and were fit for that purpose. Nearchus was appointed admiral over the whole navy, and Onesicritus captain of the single ship where the king was. When the fleet arrived at the confluence of the Acesines and Indus it was joined by divers triremes and vessels of burden which had been built among the Xathri, a free people of India.

Elephants were ferried over the Indus in some of these vessels, probably in those that were made to carry horses. This circumstance indicates the size and strength of some of these vessels.

Alexander established colonies and built docks and havens at several places along the Indus. His whole proceeding indicated an intention of permanent settlement and future commercial intercourse. The people of the lower Indus were acquainted with the channels, knew the ocean tides, currents and winds, and the most favorable time for sea navigation, a knowledge of all of which

* Ptolemy, son of Logus, and surnamed Soter Onesicritus, and Nearchus, were officers in Alexander's expedition to India, and each wrote an account of it. Arrian lived in the reign of Hadrian, two hundred years after Alexander.

Alexander had acquired from them, and also had carefully examined both principal branches of the Indus that flowed into the sea.

As soon, therefore, as the Etesian or anniversary winds ceased, which on these coasts blew from the sea towards the land the whole summer, and thereby rendered navigation (outward) impracticable during that time, they began their voyage (325 b. c.), and Nearchus safely conducted the fleets from the mouths of the Indus to those of the Euphrates and up that river to Babylon, a route by which probably, in previous ages, the commerce of India had flowed into the great metropolis of the ancient world when in the height of its grandeur and glory, for at this time it was on its decline and decay.

The accounts of this voyage of Nearchus, which show how the ancients travelled by sea, are among the most ancient in which the particulars of a voyage are given, and they contain some important facts that are deserving of notice here. When the fleet had nearly arrived at the mouth of the river Arabius they "left a certain island on their left hand, which is so near joining the mainland that the channel which separates them *seems to have been cut through*. That day they sailed about seventy stadia. The shore all along the continent was full of thick woods, and the island opposite thereto was also woody. About break of day they departed thence and *passed through the above-mentioned channel* by the help of the tides, and after a course of one hundred and twenty stadia arrived at the mouth of the river Arabius, where they found a large and safe harbor, but no fresh water, because the tide flows a great way up the river and makes it brackish; wherefore passing about forty stadia up the river they came to a lake, the water of which being sweet, they took what they wanted and returned.

The *island* opposite to this haven is high land and uncultivated, but round it are vast quantities of oysters and all kinds of fish, which make it frequented by fishermen. Thus far the country of Arabii extends itself, being *the last part of India* that way, for the Oritee inhabit the other side of the river.*

At Cabana they arrived in the evening, but because the shore was rocky and unsafe they were forced to lie off at sea. Here a violent storm arose, by which *two long ships and one small bark were lost*, but the men saved themselves by swimming, for it was not far from land. Leaving that place *about midnight*, after they had gained two hundred stadia they arrived at Cocala, where the

* It thus appears that India extended on both sides of the Indus. By some, the Indus is made its western boundary.

sailors rested themselves upon shore while the ships rode at anchor at sea, and lest they should be exposed to the insults of enemies a trench was made round the place of their encampment. Nearchus and his men were ten days employed in bringing sufficient stores on board the fleet and in refitting the ships that had been shattered by storms.

Thence with a fair wind they sailed about five hundred stadia, until they came to a certain river called Tomerus, at whose entrance into the ocean was a lake nigh the shore. The inhabitants of these parts dwelt in small huts, and had spears six cubits long, the points of which were sharpened and hardened in fire, so as to be able to do good execution. Their number was about six hundred. Nearchus with his men attacked these savages, many of whom were slain in their flight and many taken; the rest fled to the mountains. Those who were taken were found to be hairy all over their bodies, their nails sharp and long, like those of wild beasts. They had no iron among them, and made use of sharp stones to cut hard wood, and the skins of wild beasts or those of large fish served them for clothing.

Here Nearchus ordered the ships to be drawn on shore, and those that were damaged to be repaired, and then, proceeding on the voyage, the sixth day they sailed six hundred stadia and arrived at the utmost limits of the country of the Oritæ. The Oritæ, who inhabit the inland parts, are clothed as the Indians and use the same weapons, but their language and customs are different. The length of this whole voyage from the mouth of the river Indus along the coast of the Arabii is one thousand stadia, and the length of the coast of the Oritæ sixteen hundred stadia.

After the Oritæ the first country that presents itself along the coast is that of the Gadrosii, beyond whom dwell the Ichthyophagi, or fish-eaters, along whose coasts they passed. They arrived at Caloma, a village near the shore, where they refreshed themselves, and where they found some dates and green figs. There was an island about one hundred stadia from the shore, called Carnine, where Nearchus received gifts and hospitable entertainment from the villages; their presents were cattle and fish. The flesh of their cattle eats fishy, not much unlike to sea-fowl, for they feed altogether upon fish,* there being no grass upon the

* The Hon. George Keppel, captain in the East India Company's service, in his "Journey from India to England," in the year 1824, says: "We had an opportunity of ascertaining the excellent flavor of the beef, mutton and kid of Muscat, which, in common with cattle of every description, are fed on dates, fish and the seed of the cotton-plant. Strange to say, these animals thrive un-

island. The next day, passing two hundred stadia further, they put to shore, and found a village thirty stadia up the country, called Cysa, though the name of the coast be Carbis. But there was no corn there, and the army on board began to be in want of that; however, they caught some goats, and having brought them on board, departed. Thence, sailing round a certain rocky promontory which reaches one hundred and fifty stadia out into the sea, they came to a safe haven, where dwelt many fishermen, and where was plenty of fresh water; its name was Mosarna.

Here, Nearchus tells us, *he took in a pilot, to direct them how to steer their course along these coasts*, a Gadrosian, who promised him to conduct the fleet safe to Carmania. All this shore from hence to the Gulf of Persia is less difficult to be passed, *though much more famous in story*, than those he had already passed. The fleet, therefore, moved from Mosarna *by night*, arrived on the coast of Balomus, and then to a village called Barna, where were many palm trees, and gardens stored with myrtles and various sorts of flowers. Here they first found fruit-trees, and men somewhat less savage than any they had met since the beginning of their voyage. Thence they came to Dendrobosa, where the fleet lay at anchor some time. Thence they gained the haven of Caphonla, where many fishermen resided, who made use of small slight boats, and rowed with paddles, which they thrusted into the water as diggers do their spades into the earth. Arrived at Cyiza, they cast anchor and refreshed themselves. Five hundred stadia further they arrived at a small town, which they surprised, and forced the inhabitants to show them all the stores of corn they had. When they had shown them all their stock they took what they had occasion for, consisting of fish dried and ground to powder, but of little wheat or barley, for the inhabitants made use of powdered dried fish for bread, and of wheat bread for meat. They arrived at Canasis, a city in ruins, where they found a well ready dug, and some palm trees overshadowing it, the tenderest parts of the tops of which they shred small and ate, for they now began to be in great want of bread. They, therefore, hoisted sail again and sailed *all that night* and the next day along a barren coast and then cast anchor, Nearchus being afraid to suffer them to land, lest they should take that opportunity to

der this peculiar diet; their flesh is not affected by any fishy savor, and the butter was the best I had tasted since leaving England. The inhabitants of this and the opposite coast subsist almost entirely upon fish, not having altered in this respect since the time of Herodotus, who describes them as the Ichthyophagi, or Fish eaters."

leave their ships, because they began to despair of safety by sea. Thence departing, they proceeded to Canates, seven hundred and fifty stadia distant, and sailing thence, because it was a flat shore and everywhere separated by small ditches or rills of water, they came to Træsi, a country about eight hundred stadia further, where they found a little corn and palm-fruits, and seized upon seven camels,* that they immediately killed and ate their flesh. Thence, continuing their voyage, they sailed to Dagesira, which place a certain *wandering colony* then possessed; whence departing they sailed that *whole night*† and the next day, without casting anchor or taking any rest on shore, and having thus proceeded eleven hundred stadia, they passed the utmost limits of the country of the Ichthyophagi, and were forced to cast anchor in the open sea. The whole length of this country of the Ichthyophagi, as they computed it by this voyage, is ten thousand stadia.

Vast store of crabs and oysters and all sorts of shell-fish are found on the coasts of the Ichthyophagi. The inhabitants build their houses in this manner: they gather up the bones of whales, or such other large fish as they find cast up upon the shore, and use the smaller bones for rafters and those of a larger size for door-posts. Whales of a vast bulk are often seen in these foreign seas. Nearchus tells us that in their voyage near Cyiza he saw the water one morning forced upwards in a violent manner, and rising aloft from the sea as if hoisted up by a whirlwind; and when the mariners were surprised at the strangeness of the sight and inquired of the pilots what could be the cause thereof, they were answered that fish sporting in the sea spouted forth water to that vast height; whereupon they were seized with so much fear that they suffered the oars to fall out of their hands. However, the admiral encouraged them, and ordered them whenever they perceived any of these monstrous fish approach to direct the beaks of their ships exactly towards them, as if they were going to engage an enemy in a sea-fight, as also to row stoutly and to make as loud a noise as they could, as well with their voices as their oars. The mariners thus instructed, recovered from their fright, and, upon the signal given, plied their oars manfully, and when they came near the fish not only shouted as loud as possible, but sounded their trumpets and beat the sea vehemently with their oars; whereupon the whales, which were seen just under the beaks of their ships, terrified with the strangeness of the sounds, sank down to the bottom of the deep, and, rising again at some distance, began

* So camels existed in this region before the Arabs conquered it.

† Many times they sailed during the night, probably by moonlight and star-light, and because they found it cooler and more convenient.

to spout forth the water as before. Some of these whales are left ashore in several parts of that coast (when the tide falls away) entangled in the shallows, others are thrown ashore by the violence of the storms, and when their bodies are consumed and their flesh washed away, the bones of the skeleton serve the inhabitants instead of timber wherewith to build their houses; for many of these whales grow to the length of a hundred cubits.*

After Nearchus, with the fleet under his command, had passed the coast of the Ichthyophagi they came to Carmania, and anchored their ships in the sea, because the shore there was rocky and dangerous. Thence, when they arrived at Badis, a well-cultivated part of Carmania, they found plenty of fruit-trees, and also great store of vines and corn. Thence proceeding eight hundred stadia they touched upon a shore wholly waste. From this place they saw a huge promontory stretched out a vast way into the ocean, which seemed about a day's sail away from them. Those who understood the situation of the country affirmed that this promontory belonged to Arabia, and was called Maceta, and that cinnamon and other fragrant spices were conveyed thence to the Assyrians. From this shore, where the fleet lay at anchor, and the promontory which they then saw before them, the Gulf of Persia, which some call the Red Sea (*Erythrian*), has its beginning.

The fleet moving thence, and passing along the shore the distance of seven hundred stadia, came to another coast called Neoptana, and a hundred stadia farther arrived at a town called Hamozia, at the mouth of the river Anamis, in a country pleasant and agreeable, and abounding in everything except olives. Here, going ashore, they gladly refreshed themselves. In the meanwhile, some of them roving farther than ordinary into the country, found a certain person there dressed after the Greek manner, who spoke Greek. They asked him who he was and how he came thither. He replied that he was a Grecian who had wandered from Alexander's camp, and that the king and his whole army were not far distant. He was thereupon conducted to Nearchus, and told him that the army lay encamped about five days' journey from that place.† He also proposed to bring the governor of that province

* From this notice of whales, the inference is that there were no whales in the Mediterranean. But these men who were so frightened at the sight of them may have been landsmen unused to the sea. There were whales in the Red Sea, and the Egyptian sailors, in all probability, were acquainted with them, for they navigated that sea.

† Alexander, with one division of his army, went by land from India to Suza, marching near the sea, while another division marched more in the interior. The division under Alexander suffered greatly from famine and thirst, and many, from these causes, perished.

to Nearchus, and did so, accordingly. He consulted with him how he should go to the king by land, which done, they went on board the fleet together. Early next morning he ordered the ships to be drawn on shore, partly to repair whatever was broken or shattered during the voyage, and partly because he determined to land most of the forces there; wherefore he took care to run a double rampart and ditch round to secure them, and made a deep ditch from the bank of the river to that part of the shore where the whole navy lay.

In the meantime, while Nearchus was making preparations for his journey, the governor imagined he should be royally rewarded if he carried to Alexander the first news that the army was safe and Nearchus on his way thither; wherefore taking the nearest road he came to Alexander and told him the story. The king was rejoiced at the news, and men with horses and chariots who were dispatched to seek and bring Nearchus, met him and Archias on their way with no more than five or six attendants. At the first sight they knew neither of them, they were so much altered and looked so differently from what they had formerly done. The hair of their heads and their beards hung down in a negligent manner; their faces were weather-beaten, swarthy, and sunburnt, and their bodies emaciated with much watching and hard labor. When Nearchus asked them the way to Alexander's camp they gave him directions and marched straight forward, but Archias, imagining on what errand they were sent, turned to Nearchus and said 'Let us make ourselves known to them, and inquire the reason of their journey this way.' This advice pleasing Nearchus, they asked them whither they intended to travel, and received answer that they were sent in search of Nearchus and the army on board the fleet, to whom he immediately replied 'I am Nearchus, and this man is Archias; be ye, therefore, our guides to the camp, and we will satisfy the king concerning the safety of both.' Taking them, therefore, into their chariots, they returned towards the camp.

When the king was informed that Nearchus, Archias and only five more of their companions approached, he imagined that by some extraordinary providence they were preserved, but that the army on board the fleet was lost, and therefore his joy for their preservation could hardly balance the grief he endured for the supposed loss of the fleet. But when Nearchus arrived and made known to the king that his army and navy were both safe, and that he had come as a messenger of their safe arrival, the king's sorrow was turned to joy.

The king spoke to him to this effect: 'I will henceforth no more expose thee, O Nearchus, to fresh toils and hazards, but will depute some other to convey the fleet to Susa.' To whom Nearchus replied: 'I desire, and am in duty bound, to obey my sovereign in all things, but if you will show me any favor, let me obtain this my earnest request to preside over the fleet and army on board till they be safe at Susa; and as I have with great danger and hazards brought them thus far, let not another reap the glory of my toils and finish what is now easy and delightful.'

Whilst he was thus speaking, Alexander told him to take heart, for his request was granted, and so dismissed him with a slender guard to his ships, because they were not to pass through an enemy's country; wherefore making what haste they could they at last arrived safe at the sea-shore.

They left that port (Harmozia), and after passing by a small island, rocky and barren, called Organia,* they arrived and landed at a large and well-inhabited island, called Oaracta, about three hundred stadia from the place whence they had sailed (Harmozia). It produces plenty of vines, palm-trees, and corn, and was fully eight hundred stadia in length. The governor thereof freely offered Nearchus his services both as a companion and a pilot in his voyage to Susa. In this island the sepulchre of the first monarch thereof is said still to remain, and that his name was Erythras, and from him the sea was called *Mare Erythræum*. Thence they sailed about two hundred stadia farther, and arrived at another port in the same island, and thence they had the prospect of another island, about forty stadia distant, which was said to be sacred to Neptune, and was inaccessible. They departed thence early in the morning, but experienced so furious a storm that three of their ships were forced on the shallows, but afterwards got off and joined the fleet the next day. They all finally arrived at Tarsias, a promontory that runs far out into the sea, and sailing thence three hundred stadia arrived at Catea, a barren and rocky island into which sheep and goats are yearly conveyed by the inhabitants of the adjacent parts, as an offering to Mercury and Venus, to whom the island is sacred.†

Thus far Carmania extends. The length of this voyage along the coast of Carmania is thirty-seven hundred stadia. The Carmanians live after the Persian manner, as, being their next neighbors, they use the same arms and observe the same martial disci-

* See note at the end of this chapter.

† Mercury, the god of Commerce, may have some significance here, though not a Persian god.

pline. The fleet sailed thence and came to Ilas, upon the Persian shore, opposite to which is an island named Ciacandrus. The next morning they arrived at an inhabited island wherein, as in the Indian Ocean, Nearchus assures us pearls are found. Having passed the utmost point of this island, which was forty stadia farther, they found there a convenient station for their fleet. Thence they sailed to Ochus, a high mountain or promontory, where they found a haven safe from storms. Steering thence four hundred and fifty stadia, they arrived at Apostani, where they found *many ships* at anchor, and where was a village about sixty stadia from the shore. Thence renewing their voyage by night, and having gained four hundred stadia, they came to a noted bay, where were many villages, and where they lay at anchor nigh the foot of a mountain. The country thereabouts produces palms and other fruit-bearing trees, as good and in as great plenty as Greece. Thence they passed on about six hundred stadia farther, and arrived at Gogana, a country well-inhabited; they anchored the fleet at the mouth of a certain small brook or river called Areon, a station dangerous enough, the entrance thereto being extremely narrow, and almost choked up with the sand. Thence they proceeded to the mouth of another river named Sitacus. They found here a safe station. The whole voyage along the Persian coast was among rocks and shallows; the shore itself was low, marshy ground. There Nearchus found plenty of corn, which the king had purposely conveyed thither for the sustenance of the army on board. Here they tarried twenty-one days, and not only drew all their crazy and weather-beaten ships on shore, and repaired them, but refitted some which were, at first sight, judged incapable of proceeding farther.

Then again putting to sea, they arrived at Hieratis, a place well inhabited, where they drew their fleet up into a canal called Heratemis, and departing thence came to the mouth of the river Podargus. This country, which is a peninsula and called Mesambria, they found stored with gardens, and in them fruit of all kinds. Thence sailing about two hundred stadia they arrived at Taoce, nigh the mouth of the river Granis; about two hundred stadia up this river, in the inland parts, is a palace of the Persian monarchs. Thence progressing, they arrived at the mouth of the river Ragonis, where was a safe haven; and still farther they came to the mouth of another river, Brizana, where they had an unsafe station because of the numerous rocks and shelves thereabouts. While the tide flowed in they rode well enough, but when it ebbed they stuck fast among the shallows. However the next

tide they sailed thence, and anchored at the mouth of the river Arosis, *the largest of all that they had observed during the whole sea-voyage.* The Persian territories extend to this river and no farther, those of Susa beginning on the other side. The whole coast of Persia is four thousand four hundred stadia in length.

From the mouth of the river Arosis the fleet entered upon the country of Susa. All the tract of sea along that coast is shallow water, and rocky, so that no haven can be gained without danger. As their pilots had assured them that no fresh water was to be procured along that coast, they therefore, while they lay at the mouth of the river, took in a supply of fresh water for five days. From this place Nearchus tells us he cannot give such a certain account of all occurrences relating to the voyage as before, except the several ports they entered and the distances they sailed.

About five hundred stadia from their last station they cast anchor at the mouth of a certain lake called Caladerbis, the small island Margastana being opposite it. Departing thence, they sailed through some shallows, the channel being so narrow as not to admit of two ships to sail abreast. Huge posts are fixed here and there to point out the way. These shallows are formed by a deep, stiff clay on each hand, so that ships sticking there are never to be moved by any human artifice, for long poles thrust into it avail nothing, nor can the sailors venture out of their vessels to recover their poles thus thrust down into the clayey bottom, because it yields to their weight and sucks them up to their arm-pits. Thus they sailed six hundred stadia with great difficulty, not daring to put into any port to refresh themselves. At night they kept off from the shore, and all the next day, till the evening, when they gained nine hundred stadia, and now approached the mouth of the river Euphrates, and came to a small village in the Babylonian territory named Diridotis, to which place the Arabian merchants bring frankincense and all other spices, the product of their own country, to dispose of. From the mouth of the Euphrates up to Babylon Nearchus reckons the distance to be thirty-three hundred stadia (412½ English miles).”*

The length of the coast from the Indus to the Euphrates, by the measurements given by Nearchus, is twenty-two thousand seven hundred stadia, or two thousand eight hundred and thirty-seven

* The care with which the channel is marked out with balizes for the guidance of vessels, the various ports to which the pilots conducted the fleet, the “many ships” they saw at Apostani, and the Arabian merchants at Diridotis with their frankincense and spices from Arabia Felix, all indicate extensive commerce and navigation, yet the ruin of Babylon was already begun.

English miles. Nearchus stopped at several places and remained a considerable time at some of them. The utmost time employed at sea to make this voyage did not exceed sixty-one days, and the whole voyage could be reduced to about four months.

The voyage of Nearchus was justly regarded as an enterprise as perilous as it was important. Alexander himself speaks of it as one of the most extraordinary events that had distinguished his reign. The Greeks knew but little of the art of navigation. The Phœnicians possessed nearly the whole of it in antiquity, and they certainly would have pushed very far their discoveries had they known the compass.

"At Diridotis Nearchus received a messenger, who brought him an account of Alexander's march to Susa, and therefore, returning through the lake to the mouth of the river Pasitigris,* he sailed up that river, through a rich and populous country, one hundred and fifty stadia, and there tarried, expecting those whom he had sent to inquire where the king was encamped. When news of Alexander's approach arrived, they again sailed up the stream to a bridge newly built, over which the king was to pass his force on their march to Susa. There the two armies joined.

At Susa Alexander committed the best part of his forces to Hephestron, while he, with the rest, going on board the fleet, which lay ready at Susa, sailed down the river Euleus (same as Pasitigris) to the sea, and when he was not far from the mouth thereof, leaving there those ships which were shattered and out of order, he, with the best of them, sailed out into the ocean, and then entered the mouth of the Tigris (the rest of the fleet passing through a canal drawn from thence to the Euphrates), and sailed up the Tigris to his camp, where Hephestron, with the forces under his command, waited his arrival.†

It was scarcely possible for Alexander, on his return to Babylon, to remain idle. The care of his vast empire was scarcely an occupation for him. A crowd of projects then presented themselves to his mind, and he wished to execute them all. The means did not embarrass him; he had need but to live. We cannot doubt of these projects, since they are consigned to his own memoirs.

First it concerned the construction in Phœnicia, Syria, Cilicia,

* The Pasitigris and the Euleus are names of the same river. The city Susa is called Shushan by Daniel.—Dan., chap. viii., verse 2—and the river Ulai is there mentioned, which, probably, is the same as the Euleus. Curtius calls it Choaspes.—[Abridged from note to Arrian.]

† Arrian's "Indian History."

and the Island of Cyprus, of one thousand long ships, stronger than the triremes, destined to carry the war among the Carthaginians and other peoples bordering on Lybia and Iberia and on the coasts of Sicily. For the use of this fleet ports were to be dug and arsenals constructed in the places most available on the route as far as the Columns of Hercules. It was then the question of founding colonies in Asia, the means of securing and increasing these relations, either between themselves or with Europe.* Most of the historians of this prince are pleased to comment upon his projects, or to make different changes in them. Some attributed to him the design of coasting Arabia and make the tour of all Africa to arrive at Gades, and to fall upon Italy and Sicily.† Arrian asserts that he can say nothing certain, nor form any conjecture upon such projects, but he believed that nothing little entered the mind of Alexander, and that he could never remain quiet so long as he should aspire to the possession of any country.

The discovery of the coasts of the Caspian Sea was one of the designs which he had most at heart. He ordered Heraclide to cut wood in the forests of Hercania, to build long ships, some with decks, others without them, destined for this *first* discovery. The preparations for the *second* were made at Thapsacus. They were to transport all the wood cut on Mount Lebanon—the king of Cyprus had orders to furnish iron, rails, and cordage—to Thapsacus, on the river Euphrates, and thence, the material put together, they were to descend the river, at the time of the floods, to Babylon. According to Aristobulus, it was in this last town that the

* Several other great projects are mentioned, but they do not concern the present subject, so are omitted. They will be found in a book entitled "Examen Critique des Anciens Historiens de Alexandre le Grande."

† The preparations of Alexander appear to me to have been made to sail from the Euphrates around Arabia to Egypt, then, with the one thousand ships ordered to be constructed in "Phoenicia, Syria, Cilicia, and the Island of Cyprus," and his own fleet transported to the Nile (for he had transported his vessels in India from the Indus to the Hydaspes by taking them to pieces at the Indus), assemble all of them at Alexandria, proceed to and surprise Carthage, unprepared for such a combination. Such surprises and rapid movements are characteristic of Alexander. The circumnavigation of Arabia and Africa to reach Carthage scarcely deserves notice, except to show the ignorance of some ancient authors in regard to Africa and the situation of Carthage. I might add that the canal of Necho had been nearly completed, so Alexander would not have been under the necessity of transporting his fleet all the way from the Red Sea to the Nile, besides, he could have finished the canal with the immense forces at his command. It had been begun and prosecuted for a number of years by Necho, and Darius had advanced the enterprise, so it is probable that it had progressed nearly to its terminus when finished by Philadelphus.

fleet of Nearchus repaired, where were found two pentiremes, three quadriremes, twelve triremes, and thirty vessels of thirty oars.* They had been transported in pieces, on the backs of camels, from Phœnicia to Thapsicus, whence, after having been put together, they sailed to Babylon. This little fleet, by favor of the floods, had been able to arrive at its destination, but not without great difficulty and much damage. It is probable that this induced Alexander to have others built of cypress, of which there was a considerable quantity in Assyria.

Other naval stores which these ports afforded not were supplied by the purple-fishers and other seafaring men belonging to Phœnicia and the coasts thereabouts. He then dug a deep and spacious basin for a haven at Babylon, capable of containing a thousand long galleys, and built houses for all manner of naval stores adjoining thereto. He also dispatched Miccalus of Clazomene, with five hundred talents, into Phœnicia and Syria, to hire or procure as many sailors as he could, because he designed to fix colonies all along the shores of the Persian Gulf and the neighboring islands, for he was of opinion that that coast might, in time, become as rich and populous as the Phenician coast. He made these extraordinary preparations for fitting out a fleet on a pretence of making war against the Arabians. The extent of *their* country, according to his information, along the sea-coast, was not less than India, and that many islands lay not far off. Two islands in particular, reported to lie in the sea over against the mouths of the Euphrates, one whereof was not above one hundred and twenty furlongs distant from the mouth of that river and the sea-shore. The other island is about a day and night's sail distant from the mouths of the Euphrates, and named Tylus; it is very large, and not mountainous nor woody, but produces plenty of several sorts of fruits pleasant and agreeable to the taste. These accounts were delivered to Alexander by Archias, who was dispatched in a ship with thirty oars on purpose to discover the navigation of those seas; and when he had arrived at the island of Tylus durst proceed no further. However, Androsthenes, being sent afterwards with another ship of the same sort, discovered a great part of the Arabian coast. But Hieron of Soli far exceeded all who went before him upon the discovery of that shore, for he with a galley of thirty oars was commanded to sail round the whole Arabian Chersonese until he arrived upon the gulf bordering upon Egypt; and the city of Heroes. But neither durst he

* Other accounts mention the same, except, instead of pentiremes, they put quinquiremes, which most probably they were.

venture so far as he ought, though he sailed almost round the country of Arabia.* In the meantime, while they were busied in preparing triremes and digging the basin at Babylon, Alexander sailed down the Euphrates to the canal called Pallacopas, which is distant from Babylon about eight hundred furlongs (Pallacopas is not a river, but a canal drawn from the Euphrates), and by that canal into the Arabian territories, where, finding a situation suitable to his purpose, he built a city which he environed with a wall and therein planted a colony of Greek mercenaries. When Alexander returned to Babylon he took much pleasure in seeing his fleet exercise their oars, and there was a great emulation between the trireme and the quadrirreme galleys in the river; but in the midst of these preparations Alexander died May 22d, 323 b. c., in the 32d year of his age, having reigned nigh seven years over Asia, and almost thirteen over his hereditary dominions.

The death of Alexander was followed by the civil wars between his generals, which lasted to the great battle of Ipsus, 301 b. c., and left Ptolemy Soter in possession of Egypt, who was succeeded by Ptolemy Philadelphus, who during his whole reign was employed in exciting industry and in encouraging the liberal arts and useful knowledge among his subjects. He gave every possible encouragement to commerce, and by keeping two powerful fleets, one in the Mediterranean and the other in the Red Sea, he made Egypt the mart of the world. With justice he has been called the richest of all the princes and monarchs of his age, since at his death he left in the treasury a sum equivalent to two hundred million sterling. He finished the great canal connecting the Nile with the Arabic Gulf, and built at its terminus on the Gulf the city of Arsinoe, which for a long period was the very life of navigation and commerce on the Sinus Arabicus, forming the connecting link between the traffic of Egypt and that of the East. In the process of time, however, the dangerous navigation of the upper part of the Gulf induced the construction of a *harbor* lower down, where was built the city of Berenice, from which a road two hundred and fifty-eight miles in length was made across the intervening desert to Coptos, on the Nile. From *this harbor* the vessels of Egypt took their departure for Arabia Felix and India.

* Yet Scylax had made the voyage from the mouth of the Indus to the head of the Red Sea, of which, perhaps, Nearchus was ignorant. In antiquity so seldom and so limited was the intercourse of literary men with foreign nations, that probably some important events in one nation were unknown in another, and thus have erroneous impressions been left by those who were not better informed.

It was also through the medium of Berenice and the caravan route to Coptos that the principal trade of the Romans with India was conducted. By this line of communication it is said that a sum not less than what would be now four hundred thousand pounds was remitted by the Roman traders to their correspondents in the East in the payment of merchandise which ultimately sold for a hundred times as much. With such a stimulus to commerce navigation must have been carried to the highest degree of activity at that period. After the foundation of Alexandria the Indian trade was almost entirely carried on by the merchants of that city. Pliny has given an interesting account of the trade between India and Alexandria as it existed in his own time. We learn from him that the ships of the Alexandrian merchants sailed from Berenice and arrived in about thirty days at Ocelis or Carrie, in Arabia. Thence they sailed by the southwest monsoon in forty days to Muziris (Mangalore), the first emporium of India, which was not much frequented on account of the pirates in the neighborhood. The port at which the vessels usually stayed was that of Barace (at the mouth, probably, of the Nelisuram river). After remaining in India till the beginning of December or January, they sailed back to the Red Sea, met with the south or southwest wind, and thus arrived at Berenice in less than twelve months from the time they set out.

The same author informs us that the Indian articles were carried from Berenice to Coptos, a distance of two hundred and fifty-eight Roman miles, on camels, and that the different halting-places were determined by the wells. From Captos, which was united to the Nile by a canal, the goods were conveyed down the river to Alexandria. We may form some idea of the magnitude of the Indian trade under the emperors by the account of Pliny, who informs us that the Roman world was drained every year of at least fifty millions of sesterces (upwards of one million nine hundred thousand dollars) for the purchase of Indian commodities. The profit upon this trade must have been immense, since Pliny states that the Indian articles were sold at Rome at one hundred per cent. above their cost price. The articles imported by the Alexandrian merchants were chiefly precious stones, spices, perfumes, and silk.

Though in the East navigation had progressed to such an extent under the Ptolemies, yet three hundred years before this period the Carthaginians appear to have advanced with a like rapidity and to as great an extent in the West. Descendants of the most maritime people of antiquity, they had inherited their knowledge

and skill in nautical affairs, and thus established their naval supremacy in the West."

* ORMUS.

"Organa appears to be what is now known as the island of Ormuz, or Hormutz, which is traversed by a high volcanic mountain, is barren, rocky and sterile. It is about five miles from the continent of Persia, somewhat more than twenty-five miles from that of Arabia, and is about ten miles in circumference. The city of Ormus was founded in the beginning of the fourteenth century. Its commodious situation rendered it formerly the most famous mart of the East. Ships repaired there from all parts of the Indies, from the coasts of Africa, Egypt and Arabia, and a regular trade was carried on by caravans across the country. At proper seasons of the year merchants resorted to it from all countries, and particularly the Venetians, who carried a great trade in jewels, transported hence to Bassora, and by caravans to Aleppo, or to Suez by sea, then overland and by the Nile to Alexandria, where they were delivered to the merchants to whom they were consigned. Caravans passed twice a year, viz., in April and September, from Aleppo to Bassora, and thence were transported by sea to the isle of Ormus. These caravans consisted of five or six thousand persons, and brought with them articles of immense value. At the same time private ships navigated the sea from Malacca, and the caravans that traversed Persia brought vast quantities of rich and valuable commodities. The city and castle of Ormus were in ancient times deemed the pride and glory of the East, the magnificence of which was expressed after the Oriental manner in this phrase: 'That the world being round as a ring, Ormus might be considered as its jewel.' By the wealth which flowed into it and from it, it became the richest and most busy, not to add the most delightful city in the world. Ormus had two good ports, which served as the *entrepot* to the commerce of Persia with the Indies. It was the most brilliant and most agreeable city of the East. There were to be seen men from nearly all parts of the world making exchanges of their goods, and carrying on their business with a politeness and respect little known in other places of commerce. This tone was given by the merchants who communicated to strangers a part of their affability. Their manners, the good order which was maintained in their city, the conveniences, the pleasures of every kind that were collected there, all concurred in attracting merchants there. The pavements of the streets were covered in some places with carpets; the awnings which projected from the tops of the houses made the heat of the

sun supportable. They had *des cabinets des Indes* adorned with golden or porcelain vases, in which were shrubs or fragrant herbs. There were in the public squares camels loaded with water. They were lavish of Persian wines, as well as of perfumes and the most exquisite nutriments. They heard the best music of the East. Ormus was filled with beautiful young women of the different countries of Asia. There was enjoyed all the delights that the resort of wealth could attract—an immense commerce, an ingenuous luxury, a polished people, and gay women.

Albuquerque attempted in vain, in 1508, to take the island. It was defended by thirty thousand men, and had in its harbor four hundred vessels, sixty of which were brigs, and having in all twenty-five hundred men on board. He returned, however, in 1514 with an overwhelming force, and having obtained possession of the island, he erected a strong fort. It remained in their possession one hundred and twenty years, and advanced so rapidly in wealth and splendor that it was deemed the richest spot in the world. In 1622 it surrendered to the combined arms of England and Persia, and thus having fallen into the power of the Persians went to decay.*

CHAPTER XL.

Alexander's Plans—The Voyage of Hanno—Bougainville's Comments on the Voyage of Hanno—Carthaginian Colonies in Africa—Carthaginian Traffic—Gold Mines of the Senegal and Rio-d'-Ouro—The Voyages and Vessels of Columbus—The Nina—The Storm—The Hurricane—The Duration of the Voyages of Columbus across the Atlantic Ocean—Humboldt's Account of the Route from the Canaries to Cumana—The Voyage of Bligh in a Launch.

FROM the statements of those who were with Alexander, and from the grand naval preparations at Babylon and in the islands of the Mediterranean tributary to Alexandria, it is apparent that at the time of his death he had formed a gigantic scheme for conquering the Carthaginians, the most powerful and active maritime nation of the Mediterranean. The coasts of this sea from the Hellespont to the river Nile were his, and he determined to possess them westward of that river to the ocean, to do which this great naval power had to be conquered.

Carthage at this period was prosperous and populous, and

* "Rees'" and "Edinburgh Encyclopædia."

so greatly had multiplied its inhabitants more than three hundred years before the time of Alexander that it was found necessary to send some of them abroad to found colonies on the western coast of Africa.* For this purpose a fleet of sixty ships of fifty oars was fitted out at Carthage, on board of which embarked thirty thousand emigrants, and Hanno put in command of it. Of this voyage Hanno wrote an account which, abridged, has been transmitted to modern times. Montesque puts the periplus of Hanno among the most precious monuments of antiquity, and Bougainville adopts the same sentiment, and gives, in the collection of the "Academy of Inscriptions" at Paris, a curious memoir upon this voyage, besides a translation of the periplus itself, with the necessary explanations, the substance of which is the following:

But before giving the critical account of Hanno's voyage by Bougainville, a brief sketch of this important voyage will be given from Anthon's "Classical Dictionary," where a particular account of it will be found under the article "Hanno." By giving here this sketch the reader will, by comparing the two, see in one the omissions in the other, and form a better idea of the settlements made, and the country visited by Hanno: "When we had passed the Pillars on our voyage, and sailed beyond them for two days, we founded the first city, which was Thymiaterium. Below it lay an extensive plain. Proceeding thence towards the west we came to Solocis, a promontory of Libya, a place thickly covered with trees, where we erected a temple to Neptune. Then proceeding half a day, we came to the lake with reeds. Having passed the lake about a day's sail we founded cities near the sea, called Cariconticos and Gytte, and Aera and Melitta, and Arambys. Then we came to the river Lixus. Beyond the Lixitæ dwelt the inhospitable Ethiopians who pasture a wild country intersected by large mountains, whence they say the river Lixus flows. Having procured interpreters of them (the Lixans), we coasted along a desert country towards the south two days. Thence proceeding towards the east the course of a day, we found in a recess of a certain bay a small island. There we founded Cerne. We judged, from our voyage, that this place lay in a direct line with Carthage, for the length of our voyage from Carthage to the Pillars was equal to that from the Pillars to Cerne.† Then they next came to the Lake

* This expedition is generally supposed to have taken place about 570 B. C. Gail, however, places it between 633 and 530 B. C.

† The Carthaginians appear to have imagined they sailed eastward from the Pillars of Hercules.

with three islands larger than Cerne, which lake they reached by sailing up a large river. A day's sail above these islands they came to the extremity of the lake, which was overhung by large mountains, and where they were stoned by the inhabitants and thus prevented from landing. Thence they came to another river large and broad, and full of crocodiles and hippopotami, whence they returned to Cerne. Thence* we sailed towards the south twelve days, coasting the shore, inhabited by Ethiopians, who fled from us. Towards the last days we approached some large mountains covered with trees, the wood of which was sweet-scented and variegated. Having sailed by these mountains two days we came to an immense opening of the sea, on each side of which, towards the continent, was a plain, from which we saw by night fire arising by intervals in all directions. Having taken in water here, we sailed forward five days near the land until we came to a large bay called the Western Horn. In this bay was a large island, and in the island a salt-water lake, and in this lake another island, where, when we had landed, we could discover nothing in the daytime except trees, but in the night we saw many fires burning, and heard the sound of pipes, cymbals, drums, and confused shouts. We were then afraid, and our diviners advised us to abandon the island. Sailing quickly thence, we passed a country burning with fire and perfumes, and streams of fire supplied from it fell into the sea. The country was impassable on account of the heat. We sailed thence, and passing on for four days discovered at night a country full of fire. In the middle was a lofty fire, larger than the rest, which seemed to touch the stars. When day came we discovered it to be a large hill called the Chariot of the Gods.† On the third day after our departure thence, having sailed by these

* As Hanno returned to Cerne, and then renewed, or rather continued, his voyage, he probably went again over the same route to where he had ended his "particular" voyage, and "Thence" began anew as described after the word "Thence."

† Meyers, in his "Remains of Lost Empires," thus describes a scene he viewed in crossing the range of mountains that environ Cashmere: "From the top of the range we had a weird view. The forests which crowned one of the loftiest peaks ahead were all ablaze, and the whole summit glowed like a volcano. The fire running down the valleys looked like streams of burning lava, leaping in fiery cascades down the abrupt flanks of the mountains; and while the fires that formed the blazing crown of the peak seemed mounted half way up the heaven, there were hidden fires burning in profound valleys far beneath us, that only revealed themselves by the lurid reflection they shot up the steep slopes against the sky, which seemed through the glow of the night as if thrown up from the open doors of Pluto's dominions."

streams of fire, we arrived at a bay called the Southern Horn, at the head of which lay an island like the former, having a lake, and in the lake another island full of gorillas," etc.

The following is Bougainville's account and explanation of the same voyage. As he was one of the most distinguished navigators and discoverers of France, and probably had visited the places he describes, his opinions merit the highest consideration :

"Hanno left the port of Carthage at the head of sixty vessels, which carried a great multitude of passengers destined to people the colonies he was going to establish. This numerous fleet was loaded with provisions and munitions of every kind, as well for the voyage as for the new settlements. Ancient Carthaginian colonies had been planted from Carthage to the Strait, so that the operations were not to begin but beyond this limit.

Hanno having passed the Strait did not stop until, after two days of navigation, he arrived near the promontory of Hermeum, near Cape Cautin, and it was to the south of this cape that he settled the first colony. The fleet continued its route as far as a cape covered with trees, which Hanno named Solæ, and which the periplus of Scylax puts at three days' journey farther than the preceding. It was probably the Cape Bajador, so named by the Portuguese because of the very dangerous currents which form at this place waves that break here with great violence.

The Carthaginians doubled the cape; a half a day's journey brought them in view of a great lake, adjoining the sea, filled with reeds, and its borders thronged with elephants and other wild animals. Three days and a half of navigation separated this lake from a river named Lixus by the Carthaginian admiral. He anchored at the mouth of this river, and remained there for some time to carry on commerce with the Lixite nomads spread along the borders of the Lyceus. This river can be but the Rio-d'-Ouro, a kind of arm of the sea, or of a pond of salt water, which Hanno would have taken for a great river at its mouth.

Afterwards the fleet anchored near an island which Hanno calls Cerrie, and he left on this island some inhabitants to form there a colony. Cerne is no other than our island of Arguin, called Ghir by the Moors. It is fifty miles from Cape Blanco, in a great bay formed by this cape, and a sand-bank of more than fifty miles in extent from north to south, and a little less than a league wide from east to west; its distance from the continent of Africa is scarcely a league.

Hanno having again put to sea, proceeded as far as the borders of a great river, which he named Chres, at the extremity of which-

he saw high mountains inhabited by savages clothed with the skins of wild beasts. These savages opposed the landing of the Carthaginians, and repulsed them by throwing stones at them. According to all appearances this river Chres is the river St. John, which flows to the south of Arguin, at the southern extremity of a great shelf. It receives the waters of several considerable lakes, and forms some islands in its channel, besides those which are seen to the north of its mouth. Its environs are inhabited by nomads of the same kind as those of the Lixus, and they are probably the savages which Hanno saw.

Having continued his navigation along the coast towards the south, it conducted him to another river, very large and very deep, filled with crocodiles and hippopotami. The greatness of this river and the ferocious animals that it nourished certainly designates the Senegal. He limited his particular voyage to this great river, and, retracing his route, he went to seek the rest of his fleet in the road of Cerne.

After twelve days of navigation along a level coast, the Carthaginians discovered an elevated country and mountains covered with forests. These wooded mountains of Hanno should be those of Serra Leona, which begin beyond the Rio Grande and continue to Cape St. Anne.

Hanno gives twenty-six days, clearly expressed in his peripplus, to go from the Island of Cerne to the gulf which he names the Southern Horn; it is the gulf of the coast of Guinea, which extends as far as Benin, and which, beginning to the west of Cape Trois-pointes, ends to the east of Cape Formosa.

Hanno discovered in this gulf a particular island filled with savages, among whom he believed he saw more women than men. They had bodies all hairy, and the interpreters of Hanno called them Gorillas.* The Carthaginians pursued these savages, who escaped from them by their speed in running. They seized three of the women, but they could not take them alive, so great was their ferocity; they were obliged to kill them, and their skins were carried to Carthage, where, until the destruction of that city, they were preserved in the Temple of Juno. The island of the Gorillas is some one of those which are found in great numbers in this lake. The neighboring country is filled with animals like those which Hanno took for wild men.

The Cape Trois-pointes was the limit of the discoveries of Hanno. The want of provisions obliged him to conduct back his fleet to

* This is probably the first instance in which this word and these Simia are mentioned in history.

Carthage. He re-entered there full of glory, after having penetrated as far as the fifth degree of latitude, taken possession of a coast of nearly six hundred leagues, by the settlement of several colonies, from the strait to Cerne, and founded on this island a safe and commodious depot for the commerce of his countrymen, which increased considerably after this expedition.

There are no proofs that the Carthaginians preserved afterwards all the knowledge that they owed to the voyage of Hanno. It is even presumed that their merchants went not, at first, beyond the Senegal, and that gradually they left many on this side of that river.

At the time of Silax* the Island of Cerne had become the limit of navigation for large ships. The colony of Hanno maintained itself there, and Cerne was always the entrepot for the commerce of the Carthaginians to the south of Africa. Their large vessels remained in the road of the island, the farther coast not being easily navigated because of the rocks and shoals, covered with grass, which are frequently met with there. They embarked at Cerne in light boats, on which they went to trade along the coasts, and even in the rivers, which they ascended quite far.

Silax mentions a town of Ethiopians, or Negroes, where they went to trade, and gives us a detail of the merchandises of both parties and their manner of trading. The Carthaginians carried there earthen vessels, tiles (*tuiles*), Egyptian perfumes, and some jewelry, of little value, for the women. In exchange, they received the skins of deer, lion, and panther, and the hides and tusks of elephants. These hides were of great use for cuirasses and bucklers.

Silax is silent in regard to the gold-dust which they also derived from those countries.† It was a secret of their commerce, of which doubtless he was ignorant, having consulted but the routes of the pilots, where they had taken care not to mention this important article. But Herodotus, instructed by the indiscretion of some Carthaginians, reveals it to us in his history."

There is still seen in the island of Arguin a monument of the long sojourn of the Carthaginians. It is two covered cisterns excavated in the rock with "immense labor" to collect the waters of divers sources, and shelter them from the excessive heat of the

* The year 360 b. c., according to Niebuhr.

† Scylax, a celebrated geographer, born in Caria, flourished some time after Hanno, that is to say, about 330 years before Christ. There is under his name a very interesting *periplus*, which is, perhaps, a brief abridgment of his work. In it he speaks of some Phoenician towns built upon the coast of Africa, among others, of the town of Thymiaterium, which Hanno built.

climate. These cisterns, marked in some plans of the fort on this island, belonging to the French India Company, contain sufficient water to furnish many large ships. It is not a work of the Moors. These people, masters of the interior of the country and of the coasts, have no need to undertake them; besides, they are not navigators. So we are obliged to attribute them to the Carthaginians, ancient possessors of the island, after the discovery of Hanno.*

The periplus of Hanno appears the most ancient, and the only morsel of this kind that we have in the original. It is anterior to the commencement of the reign of Alexander, that is to say, the year 336 before Christ, since he speaks in it of Tyre as a flourishing town, which had its own particular king, and which is situated on an island separated from the continent by a shoal of three stadia. It is seen by this that the voyage of Hanno is more ancient than the year 336 b. c. Pliny says it was in the time of the potency of the Carthaginians, "*Carthaginis potentia florente.*" But this power commenced so early that we cannot fix the date of it.†

"We have the authority of the Carthaginians to affirm that beyond the Columns of Hercules there is a country inhabited by a people with whom they have had commercial intercourse. It is their custom on arriving among them to unload their vessels and deposit their goods along the shore. This done, they again embark and make a great smoke from on board. The natives, seeing this, come down immediately to the shore, and placing a quantity of gold, by way of exchange, for the merchants, retire. The Carthaginians then land, and if they think the gold equivalent, they take it and depart; if not, they go aboard their vessels. The inhabitants return and add more gold till the crews are satisfied. The whole is conducted with the strictest integrity."‡

Along this coast where the Carthaginians traded is the country of Bambouk, south of the Senegal, where most of the gold which finds its way to the coast is obtained. The richest gold mine known in Africa is that of Natakoo, a small, round isolated hill. The next richest mine in this part of Africa is that of Nambia, situated at the back of the western chain of the Tabaoura Mountains. It is found in a hill similar to that of Natakoo. In the valley east of the river Oro is the mine of Kombodyria—an isolated mount of argillaceous clay, as in the former two cases. Here, too, the beds of the adjacent streams contain gold, which, in this

* The Portuguese may have made these cisterns.

† "Dictionnaire des Sciences par Diderot & D'Alembert."

‡ Herodotus, born 494 b. c., finished his history 446 b. c.

part of Western Africa, is found distributed over a surface of twelve hundred square miles. Large quantities of gold are also found on the banks of the Barra, on the west coast.

It does not appear that the Carthaginians had any difficulty in doubling Cape Bajador, yet nearly nineteen hundred years after that event the Portuguese, in the progress of their discoveries along the western coast of Africa, were delayed for fifty years by this very cape which the Carthaginians had doubled without difficulty, for if there had been any it would probably have been mentioned, since it had proven such an impediment and terror to the Portuguese.

When Hanno had reached Cape Three Points, the limit of his voyage, he judged that he had reached the line (longitude) in which was Carthage—a close calculation, considering the state of navigation at that time, and very far superior to that of Columbus, who, when he had reached Cuba, believed he had discovered Cipango, or Japan, and yet he was not a third of the way to it, and more than eight thousand miles from it. Cerne, now Arguin, the colony established by Hanno, is very little north of the twentieth degree of north latitude, and scarcely more than three degrees north of the Cape Verde Islands, which are about three hundred and ninety miles from Cape Verde, on the continent of Africa, and nearly in the same degree of longitude as Cerne, or Arguin, viz., about 17° or 18° west of Greenwich.

Besides the Cape Verde Islands, there are the Madeira Islands, and the Canary Islands off the coast of Africa one hundred and eighty miles, along which the Carthaginians traded from the Strait of Gibraltar to Cape Formosa. As the colonies settled on the west coast of Africa, in all probability, existed from their founding, not less than five hundred years before Christ, to the reduction of the Carthaginian power in the Second Punic war, two hundred years before Christ, a period of not less than three hundred years,* it is reasonable to believe that a people so maritime, energetic, and powerful, became, not long after the founding of their colonies, acquainted with all these clusters of islands, the farthest of which does not exceed four hundred miles distance from the continent, while the nearest were about ninety miles.†

* The founding of the Carthaginian colonies on the coast of Africa is generally supposed to have taken place 570 B. C. Gail places it between 633 and 530 B. C.

† It is surprising the different distances given to these islands by some encyclopedias. There was considerable difference in that given in three of them, while some make no mention of their distance from the continent.

Of the three vessels with which Columbus crossed the widest part of the Atlantic Ocean and discovered the New World in 1492, two of them were light barks, called caravels, not superior to river and coasting craft of more modern days. They are delineated as open and without deck in the centre, but built up high at the prow and stern, with forecastles and cabins for the accommodation of the crew. Peter Martyr, the learned cotemporary of Columbus, says that only one of the three vessels was decked. The smallness of the vessels was considered by Columbus as an advantage in a voyage of discovery, enabling him to run close to shore and to enter shallow rivers and harbors. That such long and perilous expeditions into unknown seas should be undertaken by vessels without decks, and that they should live through the violent tempests by which they were frequently assailed, remain among the singular circumstances of those daring voyages.

In the fifteenth century the bulk and construction of vessels were accommodated to the short and easy voyages along the coast which they were accustomed to perform. We have many proofs, however, that even anterior to the fifteenth century there were large ships employed by the Spaniards as well as by other nations. In an edict published in Barcelona in 1354 by Pedro IV. mention is made of Catalonian merchant ships of two and three decks and from eight to twelve thousand quintals burden.

In 1463 mention is made of a Venetian ship of seven hundred tons which arrived at Barcelona from England, loaded with wheat. These arrivals show that large vessels were in use in those days. Indeed, at the time of fitting out the second expedition of Columbus there were prepared at the port of Brimeo a caracca of twelve hundred and fifty tons and four ships of from one hundred and fifty to four hundred and fifty tons burden.

It was not, therefore, for want of large vessels in the Spanish ports that those of Columbus were of so small a size. He had some purposely constructed of a very small size for his service. Such was the caravel which in his third voyage he dispatched to look out for an opening to the sea at the upper part of the Gulf of Para when the water grew too shallow for his vessel of one hundred tons burden and requiring three fathoms of water. The most singular circumstance with respect to the ships of Columbus is that they should be open vessels; for it seems difficult to believe that a voyage of such extent and peril should be attempted in barks of so frail a construction. This, however, is expressly mentioned by Peter Martyr in his "Decades," written at the time, and mention is made occasionally in memoirs relative to the voyage

written by Columbus and his son of certain of his vessels being without decks. He sometimes speaks of the same vessel as a ship and a caravel. In the Mediterranean, caravel designates the largest class of ships of war among the Musselmans; in Portugal it means a small vessel of from one hundred and twenty to one hundred and forty tons burden; but Columbus sometimes applied it to a vessel of forty tons.

That the word caravel is intended to signify a vessel of a small size is evident from a naval classification made by King Alonzo in the middle of the thirteenth century. In the first class he enumerates *Naos*, or large ships which go only with sails, some of which have two masts and others only one. In the second class smaller vessels, as Caraccas, Fustas, Ballenares, Pinazas, *Carabelas*, etc. In the third class vessels with sails and oars, as galleys, galeots, tardantes, and saetias.

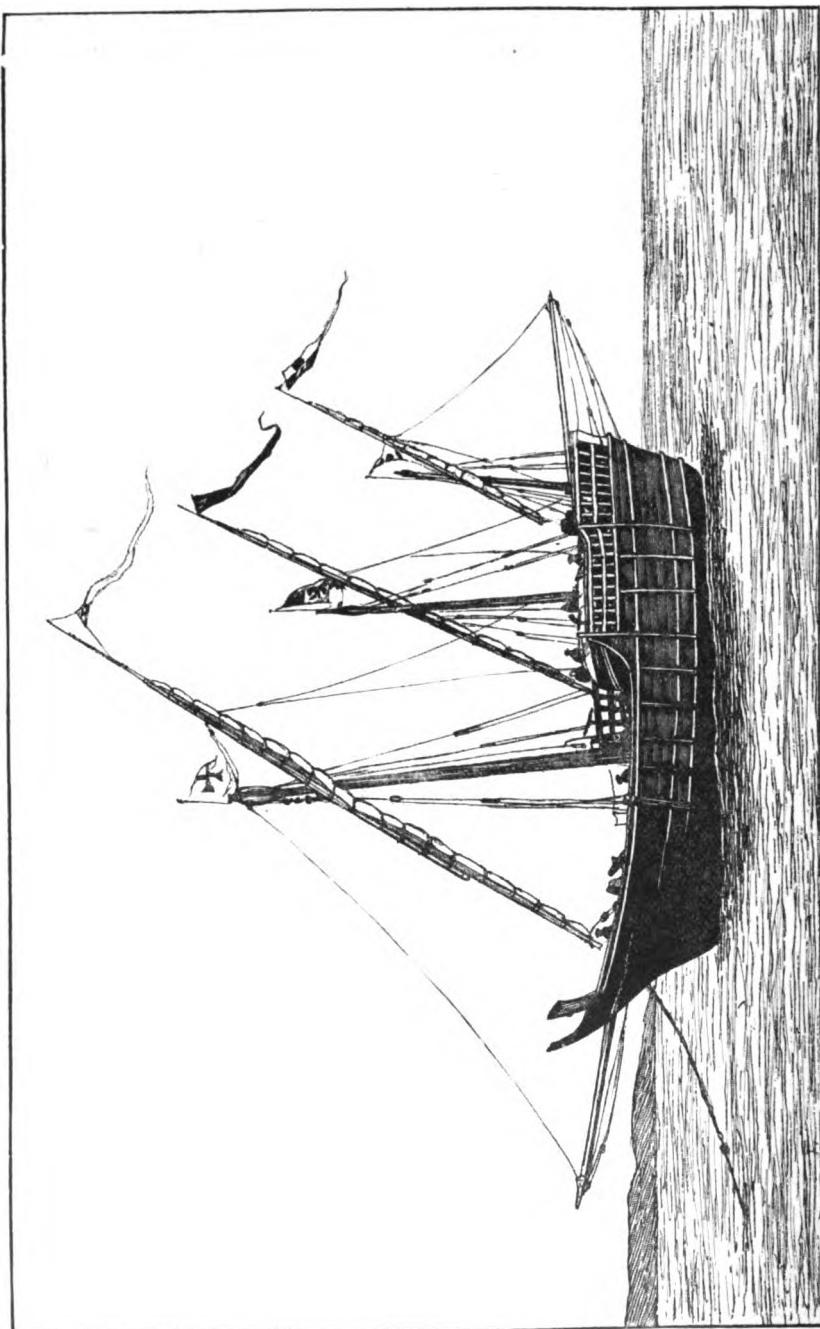
Bossi gives a copy of a letter written by Columbus. With this he gives several wood-cuts of sketches made with a pen, which accompanied this letter, and which he supposes to have been made by Columbus. In these are represented vessels which are probably caravels. They have high bows and sterns, with castles on the latter. They have short masts, with large square sails. One of them, besides sails, has benches of oars, and is probably intended to represent a galley. They are all evidently vessels of medium size and light construction. It appears, therefore, to be a fact that most of the vessels with which Columbus made this long and perilous voyage were of this light and frail construction, and little superior to the small craft which ply on rivers and along the coasts in modern days.

The Santa Maria, fully decked, carried sixty-six persons, but none from Palos; the Pinta, decked forward and aft, carried, officers and crew, thirty men, besides several passengers, all, with one exception, from Palos or from Moguer; the Nina had a crew of only twenty-four men, and the rest of the friends and neighbors of the Pinzons, and was decked only at the stern.*

This little vessel, the Nina [23], has a history which merits a record here. Lorgues says: "The smallest of the three ships, the caravel whose name indicates its smallness, *la Nina* (the babe), was provided only with a lateen sail, as the fishing-boats of Marseilles." When the Santa Maria went aground in the channel between the island Tortuga and Hispaniola, or Hati, Columbus went on board the Nina and returned to Spain on this vessel. "On the

* I mention the decks as made in the copy of the vessels sent to Chicago in 1894.

THE NINA.



12th of February, 1493, as they were flattering themselves with soon coming in sight of land, the wind came on to blow violently, with a heavy sea. They still kept their course to the east, but with great labor and peril. On the following day, after sunset, the wind and swell increased; there were three flashes of lightning in the north-northeast, considered by Columbus as signals of an approaching tempest. It soon burst upon them with frightful violence. Their small and crazy vessels (*Nina* and *Pinta*), open and without decks, were little fitted for the wild storms of the Atlantic. All night they were obliged to scud under bare poles. As the morning dawned on the 14th, there was a transient pause, and they made a little sail, but the wind rose again from the south with redoubled vehemence, raging throughout the day, and increasing in fury in the night, while the vessel labored terribly in a cross sea, the broken waves of which threatened each moment to overwhelm them or dash them to pieces. For three hours they lay to with just sail enough to keep them above the waves; but, the tempest still augmenting, they were obliged again to scud before the wind. Columbus continued to scud all night.

As the day dawned the sea presented a frightful waste of wild broken waves lashed into fury by the gale. He now made a little sail to keep the vessel ahead of the sea, lest its huge waves should break over it. As the sun rose the wind and waves rose with it, and throughout a dreary day the hapless bark was driven along by the fury of the tempest. After heavy showers, there appeared at sunset a streak of clear sky in the west, giving hopes that the wind was about to shift to that quarter. These hopes were confirmed; a favorable breeze succeeded, but the sea still ran so high and tumultuously that little sail could be carried during the night.

On the morning of the 15th, at daybreak, a cry of land was given by a mariner in the main-top. A near approach proved it to be an island; it was but five leagues distant. For two days they hovered in sight of the island, vainly striving to reach it,* or to arrive at another island of which they occasionally caught glimpses through the mist and rack of the tempest. On the evening of the 17th they approached so near the first island as to cast anchor, but, parting their cable, had to put to sea again, where they remained beating about until the following morning. On sending the boat to land, Columbus ascertained the island to be St. Mary's, the most southern of the Azores."

The *Nina* was one of the vessels of the fleet with which Colum-

* The wind had changed and blew directly from the land.

bus made his second voyage to the New World. While here in port Isabella "a terrible storm swept the island. It was one of those awful whirlwinds which occasionally rage within the tropics, and were called by the Indians *ruicans*, a name they still retain, with trifling variation. About midday a furious wind sprang up from the east, driving before it dense volumes of cloud and vapor. Encountering another tempest of wind from the west, it appeared as if a violent conflict ensued. The clouds were rent by incessant flashes, or, rather, streams of lightning. At one time they were piled up high in the sky ; at another they swept to the earth, filling the air with baleful darkness more dismal than the obscurity of midnight. Wherever the whirlwind passed, whole tracts of forests were shivered and stripped of their leaves and branches ; those of gigantic size, which resisted the blast, were torn up by the roots and hurled to a great distance. Groves were rent from the mountain precipices, with vast masses of rock and earth tumbling into the valleys with terrific noise and choking the course of rivers. The fearful sounds in the air and on the earth, the pealing thunder, the vivid lightning, the howling of the wind, the crashing of falling trees and rocks, filled everyone with affright, and many thought that the end of the world was at hand. Some fled to caverns for safety, for their frail houses were blown down, and the air was filled with the trunks and branches of trees, and even with fragments of rocks, carried along by the fury of the tempest. When the hurricane reached the harbor it whirled the ships round as they lay at anchor, snapped their cables, and sank three of them, with all who were on board. Others were driven about, dashed against each other, and tossed mere wrecks upon the shore by the swelling surges of the sea, which in some places rolled for three or four miles upon the land. The tempest lasted for three hours. When it had passed away and the sun again appeared, the Indians regarded each other in mute astonishment and dismay. Never in their memory nor in the traditions of their ancestors had the island been visited by such a storm."* The four caravals of Aguado were destroyed, with two others which were in the harbor. The only vessel which survived was the Nina, and that in a very shattered condition. Columbus gave orders to have it immediately repaired and another caraval constructed out of the wreck of those which had been destroyed. The new vessel, the Santa Cruz, being finished and the Nina repaired, on the 10th of March, 1496, they sailed for Spain. Columbus embarked on the Nina, and in the other Aguado. Lorgues in his "Life and

* Washington Irving's "Life of Columbus."

"Voyages of Christopher Columbus" (French) says: "Alas! of Aguado's four caravals, and three others that were at anchor, only a single one remained—the smallest, the oldest, and the most fragile of all—the Nina! That caraval which had succored the Admiral in his shipwreck at Navidad, which had brought him back to Palos, which had afterwards, under the name of *Santa Clara*, borne him to the explorations of Cuba, the discovery of Jamaica, and the archipelago of the 'Queen's Garden,' whence she had returned rickety, leaky, and ready to founder in the port, seeming to be inevitably doomed to perish!" Columbus immediately ordered the repairing of the *Santa Clara* and the building of another caraval, which he named the *Santa Cruz*.

The squadron with which Columbus made his fourth voyage and went as far west as the Isthmus of Panama, consisted of four caravals, the smallest being only fifty tons burden, and the largest seventy. These small vessels encountered in the Caribbean Sea storms as dreadful as those which the *Nina* had experienced, and, like it, had survived them.

It was early in the morning of the 6th of September, 1492, that Columbus sailed from the island of Gomera, one of the Canary cluster of islands, to cross the Atlantic Ocean the first time, and it was on Friday morning, the 12th of October, 1492, that he first beheld the New World. It thus appears that his squadron was thirty-seven days at sea.

On his second voyage, when he crossed the Atlantic from the Canary Islands, "the 13th of October a fair breeze sprung up from the east which soon carried them out of sight of the island of Ferro. Being in the region of the trade-winds the breeze continued fair and steady with a quiet sea and pleasant weather, and by the 24th they had made four hundred and fifty leagues west of Gomera (one of the Canary cluster of islands). On the morning of Sunday, the 3d of November, he arrived at Dominica, thus crossing the Atlantic in twenty-one days.

On his third voyage he left Spain with six vessels, but off the Canary Islands he dispatched three vessels of his squadron direct to Hispaniola, and with the three remaining vessels proceeded to the Cape Verde Islands, and thence sailed across the Atlantic Ocean. The ship on which he sailed was decked and of a hundred tons burden; the other two were merchant caravals. Of this voyage, if the days he was becalmed (eight) and the days he was in sight of the Island del Fuego (two) be deducted from the time he was sailing across the Atlantic, it leaves the voyage only sixteen days, but in this voyage, when he believed he had reached the longi-

tude of the Caribbean Islands, he bore towards the northward in search of them. It is not mentioned how many days he sailed northward till he discovered the island of Trinidad, but it is probable that had he continued on his westward course he would have discovered land much earlier, and thus have diminished the length of the voyage, reducing it to less than sixteen days.

On his fourth voyage Columbus left the Canary Islands on the evening of the 25th of May for the New World. The trade-winds were so favorable that the little squadron of three vessels, one of which was of fifty tons burden, swept gently on its course without shifting a sail, and arrived on the 15th of June at Mantinano, so called by the Indians, and supposed to be Martinico.*

The Carthaginians, as a maritime nation, became acquainted with the ocean tides and currents and the winds along the coast where they traded. It is hardly to be doubted that they were acquainted with the trade-winds, and that they knew of the monsoons by which the vessels of the ancients leaving the coast of Arabia were wafted across the ocean to India. The trade-winds of the Atlantic Ocean are similar to the monsoons of the Indian Ocean. Humboldt, who, in the year 1799, crossed the Atlantic from the Canary Islands to the port of Cumana in New Andalusia, thus speaks of this route and the trade-winds :

" We left the road of Santa Croix (one of the Canary Islands) in the afternoon of the 25th of June, and we directed our course to South America. It was blowing very fresh from the northwest, and we soon lost sight of the Canary Islands ; the Peak (Teneriffe, eleven thousand four hundred and thirty feet high) alone appeared from time to time through the clear places.

Our passage from Santa Croix to Cumana, the most eastern part of Terra Firma, was most favorable. Our route was that followed by all the vessels destined for the Antilles from the first voyage of Columbus. Arrived at the zone where the trade-winds are constant, we crossed the ocean from east to west on a sea so calm and quiet that the Spanish navigators called it *el Golf de las Dames*. We experienced—as all those who have frequented these latitudes—that in degree as we advanced towards the west the trade-winds, which are at first from the east-northeast, settled from the east. Navigators knew for centuries that in the Atlantic Ocean the equator did not coincide with the line which separates the trade-winds of the northeast from the general winds of the southeast. This line, as Halley has very well observed, is found in the third or fourth degree of north latitude.

* Washington Irving's "Life of Columbus."

It is known that in the passage from Santa Croix to Cumana, as in that from Acapulco to the Philippine Islands, the sailors have scarcely any necessity to touch the sails. They navigate in these latitudes as if they were descending a river; and we believe that it would not be a hazardous enterprise to make the voyage in a long-boat without deck.

In proportion as we leave the coast of Africa the wind moderates more and more. It often calms for several hours, and these petty calms are regularly interrupted by electric phenomena. Dark clouds, heavy and of marked contour, form in the east. One would have said a gust of wind was going to force them to lower and take in the topsails, but very soon the breeze freshens again, a few large drops of rain fall, and the storm is dissipated. It is by the aid of these little gusts of wind, which alternate with calms, that they pass, in the months of June and July, from the Canaries to the Antilles or to the coasts of South America.*

The shortest distance between Africa and America is from Sierra Leone, where were founded the Carthaginian colonies by Hanno, and Cape St. Roque in Brazil, which is somewhat more than half the distance from the Canary Islands to the Caribbean Islands, or about seventeen hundred and fifty miles, which is only four hundred miles more than the distance Columbus made in eleven days on his second voyage.†

"The same chances which led Christopher Columbus to unknown countries when he was seeking a route to the west to reach the eastern coasts of the Indies and of China may have carried other navigators to the continent which is to the west of Europe and Africa. Contrary storms have been able to carry there the Phœnicians in driving them from the coasts of Africa, to which they went *merely to traffic*, in leaving the ports which they had on the Red Sea."‡

But it is quite as possible that a knowledge of the trade-winds and the passion for commerce and gold induced the Carthaginians to venture beyond the Cape Verde and the Canary Islands, as the same impulse had impelled the Tyrians to circumnavigate Africa.

There is no account of the Carthaginians having ever made a voyage from Africa to America, but from what has been hereto-

* Humboldt left the Canaries the 25th of June, in a slow-sailing vessel, and arrived at Cumena the 16th of July, 1799.

† Not having facilities for obtaining exact distances, those here given are from compass measurements on maps, and do not pretend to be exact, but approximate, distances.

‡ Pluch.

fore related of them it will hardly be doubted that they had the ability to do so; but there is an account of a voyage more extraordinary than any that has ever been made either in ancient or in modern times, and shows how countries may have been populated in ancient times. A launch, commanded by Lieutenant Bligh, with eighteen persons whose weight, together with that of the few articles they were permitted to take with them, brought down the boat so near the water as to endanger her sinking with but a moderate swell of the sea, and to all human appearances in no state to survive the length of the voyage they were destined to perform over the ocean, passed in forty-one days a distance over the Pacific Ocean of three thousand six hundred and eighteen nautical miles in safety* from Tofoa, one of the Friendly Islands in the Pacific Ocean, to Timor, one of the islands of the East Indies. Considering that such a voyage was made under the most trying circumstances, who can doubt that a Carthaginian ship, as large if not larger than the *Nina*, with *two masts, four sails, fifty oars*, and one hundred and seventy men, could have securely sailed across the Atlantic Ocean, seventeen hundred and fifty miles, from Africa to America!

CHAPTER XLI.

Migrations—Transmission of Names—The Phoeceans—Massalia—Samians—Tartessus—Caravan Routes—The Country of the Mongols and Toltecs—Kalkas Tartars—The Toltecs' Route—Aleutian Islands—Indian Offshoots—Tepes—Volney's Description of Indians—Volney on Languages—Meshekenakwa or Little Turtle—Jefferson on Language—President D. S. Jordan on the Urgent Need of a National University.

FROM remote time, people emigrating or expelled from their own country and settling in another have taken with them the religious and political institutions of the mother country, and have named their cities after those of their former homes, thus associating with the name of the city or province the origin of their people. Thus the inhabitants of Massenia, a country of Peleponnesus, when they could no longer successfully resist the Lacedemonians, left (625 b. c.) their native country and emigrated to Sicily, where, aided by Anaxites, king of Regium, they took the city of

* There were, at first, nineteen men, but soon after their departure one was killed by the natives of an island where they had stopped for provisions. See "A Description of Pitcairn Island."

Zaucle, spared and incorporated the inhabitants with themselves, and changed its name to Massena, which exists to this day.

The Phœnician power, which had attained its apogee about the eleventh century before Christ, maintained itself in all its development among the eastern races during three or four hundred years. The revolutions of Asia, the subversion of the metropolis, the great city of Tyre, overwhelmed by the Assyrians, led to the ruin of the Phœnician colonies of Europe. The Gauls, the Legurians, the Aquitains, seized upon the mines which the Phœnicians had taught them to work; the Greeks, whose young civilization began to radiate into all the Mediterranean, took possession of the Phœnician ports of the Galla-Ligurian coast. The Rhodeans, who then held the first rank among the Grecian Isles, founded a new Rhodes between the mouths of the Rhine, but they were very far from elevating themselves to the grandeur of the Phœnicians, and their settlements were already on the decline when there arrived from Asiatic Greece a colony whose destiny was to be more brilliant and more durable.

"In the year 600 before Jesus Christ, the first Phœcean vessel anchored on the coast of Gaul, to the east of the Rhine; it was commanded by a merchant named Euxene, engaged in a voyage of discovery. The gulf where he landed depended upon the territory of the Segobriges, one of the Gallic tribes that had maintained its liberty in the midst of the Legurian population. The chief or king of the Segobriges, whom the historians called Nann, welcomed with friendship these strangers and led them to his home, where a great feast was prepared, for that day his daughter was to marry. Mingled among the Gallic and Ligurian aspirants the Greeks took their place at the feast, which consisted, according to usage, of venison and cooked herbs.

The young woman, named Gyptis according to some, and Petta according to others, did not appear during the repast. The Iberian custom, preserved among the Ligurians and adopted by the Segobriges, required that she should not appear until the end of it, bearing in her hand a cup filled with some beverage, and that he to whom she presented it to drink was to be reputed the spouse of her choice. At the moment when the feast was ended she therefore entered, and, either by chance or some other cause, says an ancient narrative, stepped in front of Euxene and tendered to him the cup. The unexpected choice struck with surprise the whole assembly. Nann believed he saw in it a superior inspiration and an order of his gods. He called the Phœcean, his son-in-law, and gave him as a dower the gulf where he had landed.

Without losing time, Euxene sent to Phoecea his vessel and some of his companions charged to recruit colonists in the mother country. In the meantime he laid the foundation of a town which he called Massalia.*

In the meantime the messengers of Euxene reached the coast of Asia Minor and the port of Phoecea. They made known to the magistrates the marvellous adventures of this voyage, and how, in regions of which they scarcely knew the existence, Phoecea had suddenly found herself mistress of a territory and the favor of a powerful king. Excited by these accounts, the young men enlisted in crowds, and the public treasury, according to usage, was charged with the expense of transportation, and furnished the provisions, utensils, arms, divers seeds, as well as plants of the olive and the vine. At their departure the emigrants took from the sacred hearth of Phoecea fire destined to perpetually burn upon the sacred altar of Massalia, a living and poetical image of the affection which they promised the mother country ; then the long Phœnician galleys of fifty oars, and bearing at the prow the sculptured image of a Phœcean, departed from the port. They repaired first to Ephesus, where an oracle had ordered them to land. There a woman of high rank, named Aristarche, revealed to the chief of the expedition that Diana, the great goddess of Ephesus, had ordered her, in one of her dreams, to take one of her statues, and to go and establish her adoration in Gaul. Transported with joy, the Phœceans welcomed on board the priestess and her divinity, and a fortunate passage conducted them to the shores of the Segobriges. Massalia prospered, enlarged and re-erected the fortified posts of the Phœnicians and Rhodeans.†

According to Herodotus the Phœceans were the first people of the Hellenes who performed long voyages. They discovered the Adriatic Sea, Tursenia, Iberia and Tartessus, and they made their voyages, not in merchant vessels, but in war galleys. When they arrived at Tartessus they were hospitably received by the king of the Tartessians, whose name was Argenthorius. He reigned over Tartessus for eighty years, and lived one hundred and twenty.

There can be no doubt that the subjects of Argenthorius were the colonies of early Phœnicia, who were totally independent of Carthage, and were a rich, prosperous and enlightened race of men. Their chief city, the river on whose banks it was built, as well as the adjacent territory, were all called Tartessus, being the

* Which word or name finally became Marseille, the celebrated seaport city on the Mediterranean. Massalia rose to power on the ruins of Carthage.

† Martin's "History of France."

emporium with which the fleets of Solomon traded, and whence the Sidonians procured that tin, without which they could not have manufactured that bronze which from the earliest period was so largely made and so widely diffused by Sidon, "abounding in bronze." The earliest specific notice of any intercourse between the historic Hellenes and these flourishing colonies of the ancient Phoenicians is in the fourth book of Herodotus, where he describes the colonization of Cyrene by the Theroeans. This event took place at least 638 years before Christ. As a preparatory step they had sent a vessel to reconnoitre the coast, and having discovered the island of Platea, took possession of it, and left their pilot Corœbus to occupy it until their return. They supplied him with provisions adequate to his use for a certain time. "But," writes Herodotus, "when they continued absent beyond the appointed time, the whole store of Corœbus was consumed. But then a Samian ship, whose owner was Coleus, on her voyage to Egypt, touched at this island, Platea, and, after leaving with him a year's provision, sailed from the island for Egypt, but were carried from their course by an east wind, and as the gale continued they passed through the Herculean Pillars and arrived at Tartessus. These men, having returned safe, were the greatest gainers from their cargo of all the Hellenes of whom we have any accurate account." From the tenth of their profits they dedicated a magnificent bronze cauldron to their patron goddess, Hera, which, with its three colossal supporters, also of bronze, and seven cubits tall, remained till the time of Herodotus, a lasting memorial of their prosperous visit to the shores of the Atlantic Ocean.

There cannot be much doubt that the cargo of the Samian vessel which made this fortunate voyage consisted principally of the *amber* of the northwest coast of Europe, of the *tin* of Great Britain, and of the *silver* produce of the Spanish mines, for Tartessus was the great emporium of all these highly valued materials. Phoecea long profited by her daring enterprise, but the invasion and conquest of Ionia by the armies of Cyrus gave a fatal blow to her prosperity. A portion of her citizens abandoned their native land and found rest and a home in Massalia, where, in the days of her supremacy, the parent city had founded a colony six hundred years before Christ.*

* John Williams, Archdeacon of Cardigan, in one of his "Essays on Various Subjects," London, 1848. Anthon, in his "Classical Dictionary," says: "The Phocians resolved to sail to Corsica, where twenty years prior to these events they had founded a town named Alalia." But as Marsellia was settled previous to Alalia, it may reasonably be conjectured that they went to it or to both places.

The Carthaginians founded a city in Spain and called it New Carthage, after the mother city in Africa; and it has already been mentioned how Tartessus, on the river Beatis, in Spain, founded by the Cilicians, was named after the capital of Cilicia, Tarsus, on the river Cydnus.*

And so in modern times in the founding of cities and colonies in America. The English named Plymouth after a town in England, whence the colony had sailed. The Hollanders, when they settled on Manhattan Island, named their town New Amsterdam. When the Palatines settled in North Carolina, New Bern was named after the capital of Switzerland. The French of Louisiana named their capital New Orleans, after Orleans in France, though it was said to be named after the Duke of Orleans, at that time Regent of France. The word *new* shows that it was to distinguish it from the *old* city.

If we turn to South America, there is found the same custom of naming cities and provinces after those of Spain, whence its colonies came.

Now this same custom can be traced among the Aztecs and Toltecas. There is in Mongolia, north of the Great Desert, a town called Kara-korum, formerly the capital of the empire of Genghis Khan, and in the region in which this city is situated a desert and a river each called "Tula," or Tolla.

Atkinson, in his "Travels in the Regions of the Upper and Lower Amoor," says: "During my wanderings I became acquainted with several merchants who had frequently visited Yarkand, Kashgar, and Cashmere. Between these places caravans often pass, so that various wares are constantly being transported through this country without any extraordinary difficulty. It is a well-known fact that the caravans which travel from Kulja into some of the interior provinces of China encounter greater dangers than will be met with between Yarkand, Kashgar, and the Indus."

From Yarkand there is a caravan-road going to the northeast in a direct course into Mongolia; numerous routes branch from it into the tea provinces and to various parts of the Chinese empire.

Yarkand is a place of considerable trade, and a great number of Chinese, Tartar, Bakarian and Cashmerian merchants reside there. Formerly Persians were also numerous, but now there are but few in the city. The bazars are three miles and a half in length.

* Herodotus says that the people of Cilicia were anciently called Hypochæi, and that the appellation of Cilicians was subsequently derived from Cilix, son of Agenor, a Phœnician. This passage seems to point to a Phœnician origin, a supposition strengthened by the commercial habits of the people of Cilicia.

Rich silks and porcelain are conspicuously displayed; also brick-tea appears in vast quantities, as well as printed calicoes from Kokan. The loom of *Cashmere* contributed its quota to the mass of manufactured goods.*

Shortly after leaving Yarkand the route crosses the river of that name, and then proceeds to the northeast and passes the Kashgar at the small town of Bar-tchuk, after which it follows this river for more than two hundred miles over a fertile country till it reaches Kara-tal, where it crosses the Ac-sou. Hence it takes a course towards the Syan-shan Mountains, crossing the river Sha-yar, whence it turns due north to Koutche, which contains a Chinese garrison. To the north of this place is the Moussoor-Daban (or pass), on the route to Kuljar. After passing Koutche the route runs to Tokanai, along the foot of Youldouz Mountains, through Youggur, till it reaches Kalgaman, then to Kara-shara. The next town of importance through which it passes is Tourfan, and then Pidjan. On leaving Pidjan the route ascends the first ranges of Kongar-adzirgan, then crosses the chain and joins the route coming from Tarbagati and Tchou-bachak, and thence to Barkol or Tchin-si. Numerous caravans pass through this place on their way to Tchou-bachak and Ourga.

On leaving Barkol, or Tchin-si, the route passes for more than two hundred miles over a grassy steppe, on which the Mongol tribes find good pasture for their herds of horses and cattle. It then enters the sandy plain of Tchagan *Tola*. Water is found here, but very little pasture. Having passed this dreary waste the traveller reaches the northern slopes of Khangai-Oula, where pasture and water are abundant. It then crosses the chain at a point about fifty miles west of Kara-korum, on the river Orkhon. Here is the town, once so famed, where Genghis Khan held his court. A friend of mine, a Cossack officer, with a party of his men and two mining engineers, explored the Orkhon twenty-five years ago in search of gold, when they visited the site of the ancient capital of the Mongols. I ascertained from his description that there are few remains left to mark its magnitude, and nothing to indicate any former splendor.

The northeastern face of the Khangai-Oula Mountains gives rise to a great many rivers that fall into the Selenga, which collects nearly all the waters on the south and west of the Baikal and becomes the great affluent of that mountain sea. The route then

* By these articles of merchandise is indicated the immense extent of the caravan communications with Yarkand. It is well to reflect that these routes, or, at least, several of them, have existed for ages.

descends into the valley of the Orkhon and passes some ruins on the shore of a small lake.*

It then follows the north bank of the Orkhon for more than one hundred miles to its juncture with the *Tola*. This river runs from the east, having its rise on the western side of the Kingan Mountains, and on the eastern face of the chain is the source of the *Keroulun*, *the longest affluent of the Amoor*. After crossing the Orkhon a little below the juncture of the rivers the route turns due east for about one hundred and thirty miles till it joins the road between the Chinese towns of Mai-ma-tchin and Ourga. It enters the road at Kountsai, about sixty miles from Ourga and one hundred and twenty from Mai-ma-tchin. From this point the caravans follow the post-road, going over the mountains to Mai-ma-tchin, 'the place of trade,' which stands on the edge of a plain which stretches to the south to a chain of wooded hills, extending to the east thirty or forty miles, nearly to the river Kiran, while to the west it runs up towards the Selenga. The plain is said to be about twenty-five hundred feet above the level of the sea."†

"Of all the Mongol nations dependent on China the most numerous and famous are the Kalkas, who take their name from the river Kalka. Their country extends from Mount Altai, in the west, to the province of Solon in the east, and from the fifty-first degree of latitude to the northern extremity of the great desert of Kobi. The Kalkas, descendants of the Mongols, were, about the year 1368, expelled from China, and *retreating northward settled chiefly along the rivers Selinga, Orkhon, Tula, and Kerlon, where they returned to the roving and sordid life of their ancestors.*

The Kerlon, which is about sixty feet broad, and not deep, washes the richest pastures of the Tartars. The Tula, or *Tola*, runs from east to west, and, in most places, is larger, deeper, and more rapid than the Kerlon; has fine meadows and more woods; the mountains on the north side are covered with large fir. This river, having joined itself to three others which come from the southwest, runs towards the north, and, after being increased by several others, flows into the great lake Balkal.

Kara-korum was to the north of the great desert Kobi and *near a lake*. It was the imperial seat of the Khans till Kublay removed it to Sheng-tu, which continued to be their summer residence as long as the Mongols were in possession of China, but after their expulsion, about the year 1368, it is probable Kara-korum became again

* This is claimed to be the site of Kara-korum.

† Atkinson.

the seat of the Khans. Neither the time nor the occasion of the destruction of Kara-korum is mentioned by any historians known to us.”*

The Toltecas being banished from their own country 596 A. D., which appears to have been the kingdom of Tolla (Toltecolt signifying an inhabitant of Tolland), wandered for the space of many years till they arrived at a place to which they gave the name Tollantzinco, about fifty miles east of the spot where some centuries after was founded the famous city of Mexico ; but they did not choose to remain in that country, and in less than twenty years after they went about fifty miles to the west, where, *along the banks of a river they founded the city of Tolla, or Tula, so called after the name of their native country*, and made it the capital of their kingdom.

The Aztecas, or Mexicans, who were the last people who settled in Anahuac, lived until about the year 1160 of the vulgar era in Aztlan, a country which Boturini says was a province of Asia. Torquemada says he observed an arm of the sea or great river represented in all the ancient paintings of this migration.† This picture hardly represents a river, for the Aztecs in their wanderings must have passed many rivers, and some large ones, but the crossing of a river would not be an action so remarkable as to deserve this notice, while the crossing of a strait separating two great countries, and presenting great difficulties, would.

It is more probable that this picture represents Behring Strait, as all these emigrating, wandering tribes are said to have come from the north. They could not have come from any other quarter, had they come from Asia to America, after crossing the Strait of Behring. It may, however, allude to the passage by the Aleutian Islands, especially if the Copper Island, one of the islands of this group, contains copper, as from its name it probably does, for in one of the accounts of the emigration of one of the tribes mention is made of their having arrived at a place where they found copper. The Fox Islands form one of the cluster of islands known as the Aleutian chain. These islands are all of different sizes, below one hundred and forty miles in length, which

* “Modern Universal History.”

† In a note to Clavigero is this : “In several charts published in the sixteenth century this province appears situated to the north of the Gulf of California.” It is thus seen why authors have made the migrations from the north of this gulf, and this gulf the water represented in the pictorial account of the migrations of the Aztecs. Batenourt makes Aztlan two thousand seven hundred miles from Mexico !

is that of Behring Island, and are divided by channels of very unequal width. This last is one hundred and ninety-two miles from the harbor of St. Peter and St. Paul, in Kamtschatka.

Copper Island, which is mountainous and twenty-five miles long, lies due east of Behring, and is the first of the Aleutian or Fox Islands, properly so denominated; Attoo is sixty miles in length, and one hundred and eighty-eight miles from Copper Island; next is Agattro, twenty miles distant, and six in length; then Baldyr, an oval rock, six miles by ten, distant seventy miles, and so on regarding the rest to Omnak, Oonalaska and Oonemak, next to Alaska.

The natives of the Aleutian Islands are of middle size, of a very dark-brown and healthy complexion, and resembling an intermediate race between the Mongol Tartars and North Americans. Among the barbarous customs formerly practiced by the Aleutians was slaughtering slaves of both sexes at the funeral of their deceased chiefs. Sometimes the bodies of men are partially embalmed with dried moss and grass, and interred in their best attire, along with their arms and other implements.*

There was, in 1841, a tribe of Indians living south of the Arkansas River, on the waters of the Washataw. These Indians were known as the Tula tribe, and were the bravest of all the Indians in that region.

A hundred years after the destruction of the Toltecas the Chechemecas arrived in Anahuac from the same quarter whence had proceeded the Toltecas. Their native country, the situation of which is unknown, was called Amaquemecan. They lived only on game and fruits and roots which the earth spontaneously produced. Their motive for leaving their native country is uncertain, as likewise the etymology of the word Chechemecalt.† There was living in 1700, on the Bayou Lafourche, an outlet of the Mississippi River, in Louisiana, a tribe of Indians called the Chetimachas, which is so much like the word Chechemecas, that it probably is the same name written differently. There was also in Mexico a people called Otomies, and it may be that the Pottawatomies have emigrated from Mexico, as the Natchez and Cherokees are said to have done. Besides this, there are the Mexican names Cachula and Guacachula, which are almost the same as Guachula, an Indian town that was in 1540 in what is now the State of Georgia, and is mentioned by Garcelasso, and appears to have been on the Chattahoochee (Katta-Uche) River.

* "Edinburgh Encyclopaedia."

† Clavigero.

Genseng, one of the principal medicines of the Chinese and the Tartars, is found in China and in portions of the United States. It is probable that it was introduced into this continent by emigrants from Asia, and is an evidence of intercourse between the two hemispheres at some remote period. Before the discovery of the root in America, the root in Pekin frequently brought its weight in gold, and ten times its weight in silver.

The roots, that are divided or bifurcated, are considered the most powerful, and it is said to this kind it owes its name, *Jin-Chen*, like a man; and, strange to say, the American Indian name, *ganantoprien*, means the same thing.

These Aztecas brought with them a word that is found in Europe, Asia and Africa, and is incorporated into many Mexican words, where in many, if not all, instances, it has the same signification that it has in the countries of the Old World, where it is found, and that word is *Tepe*, which signifies mound, hillock, hill, mountain. It is found in Egypt, Asia Minor, Crimea, Persia, Turkestan, and India. Chevalier, who visited the Plains of Troy about the year 1790, being anxious to know whether the Turks gave any particular name to the monument of Eseyetes, learned that they considered it as the tomb of an infidel, and gave to it the appellation, Tepe-Udjik, Udjik being the name of a neighboring village. There were in that locality, besides this mound, other artificial hillocks, viz.: Bechk-Tepe, Dios-Tepe, In-Tepe-Gheule (name of the Rhætian promontory).

Tepe-Kirman is the name of a mountain in the Crimea. Vambery says: "I, in the meantime, ascended the *Black hill*, which is situated in the village from which it derives its name, *Kara-tepe*, from the summit of which I was able to gain a view of the Caspian Sea." On the opposite (east) side of the Caspian was Gu-mush-Tepe.

The Abbe Brasseur, alluding to the Lake of Nicaragua, says: "This lake announces itself from afar by the volcanic summits of the island of *Ometepe*, or of the Two Mountains."

Besides this word tepe there is Cachula and Guacachula, in the Mexican language very much like "Guachula," the name of an Indian town in Georgia mentioned by Garcelasso. There is also Colyma, the name of a town and a river in Siberia, mentioned by Cochrane, same as Colima, a province of Mexico, also Yebrashka, name of a Chukche chief, much like Nebraska, the river which flows into the Missouri.

Moritz Wagner, who travelled in Persia, says: "The plains of Urmia present a series of artificial mounds resembling the Mo-

hills of the Russian steppes. The natives give no other name to these artificial mounds than *Tepe*." The Mexicans have used this word to qualify many names. *Tzatzitepec* in the Mexican language means "*the hill of shouting*." *Quetzalcoatl* (Feather Serpent), the god of the air, is said to have once been high priest of Tula. Whenever he intended to promulgate a law in his kingdom he ordered a crier to the top of the mountain *Tzatzitepec* (the hill of shouting), near the city of Tula, whose voice was heard at the distance of three hundred miles.

Tepeithuill, the name given to the month of October, signified only *the festival of the mountains*. They made little mountains of paper, on which they placed some little serpents made of wood and certain small idols, which they put upon the altars and worshipped as the images of the gods of the *mountains*.*

"The Tepeacas not having found inhabitants in the province which they now occupy, built there the town of Tepeaca, *on the summit of a triangular mountain*, which is designated by its name."†

Popocatepec is the name of a mountain. *Chepoltepec* is the name of a hill in the vicinity of Mexico.

The volcanic mountain, Orizaba, also has *tepe* or *tepec* in its Mexican name *Citlaltepec*, and so have the names of other mountains and mountainous places.

And it is remarkable that the Sioux Indians call a certain mountain, known as the Devil's Peak, or Devil's Tower, in Wyoming, by the name of *Mateo Tepe*, the Bear's Lodge. This peak stands on the banks of the Belle Fourche River, in the northeastern part of Wyoming, and is a gigantic column of lava which rises one thousand six hundred and sixty-five feet above the level of the Belle Fourche River, which flows at its base, and the *tower* proper, which is almost perpendicular, is six hundred and sixty-five feet in height, and can be seen with a glass a distance of one hundred miles. It was used by the Indians as a signal tower, from which fires gave warning of the approach of hostile tribes or of the presence of whites.

Though the word *tepe* here means lodge, or tent, among the Sioux, whose tents, as also those of the Cheyennes, are of a conical form, and appearing at a distance, when pitched on a plain, like mounds or tumuli, it is probable that thus the name of their tent was derived; yet it is remarkable that this word *tepe* is here used, as it is used in several countries of Asia and Mexico, to designate a mountain.

In Central Asia, where probably the word originated, the yours

* Clavigero.

† Richer.

of the Kirghs are of a circular circumference thirty-four feet in diameter, five feet high to the spring of the dome, and twelve feet in the centre, and must have very much resembled tumuli at a distance.

The following are some of the many words that have *tepe* or *tepec* in their composition, and, as this word in the Mexican or Aztec language signifies hill, hillock, mountain, and elevated land, it may in these words refer to them :

Tustepec, Tepejacac, Jauhtepec, } States on the side of and
Cajotepec, Tepetloztoc, Huaxtepec, } around the famous moun-
Quantepac, Tepetecapac, Zocatepec,
Xilotepec, Tepepan, Citaltepec, the name of Mt. Origama.

The Abbe Hervas says : " When we find the Hebrew word *Sacco* in the Hebrew, Greek, Teutonic, Latin languages, etc., it obliges us to believe that it belongs to the primitive language of man after the flood." If so, how forcible the fact that the word *Tepe* is found in Egypt, Asia Minor, the Crimea, Turkestan, Armenia, India, and Mexico, and in all these countries has the same signification and is applied to objects of the same character, except that in Mexico I do not know of its having been applied to tombs, tumuli or temples, though the teocallis have, through the effects of time, become huge *tepes*.

The celebrated French traveller, Volney, visited the United States in the year 1795, where he spent three years studying the climate, laws, and the people and their manners. He says: " My stay at Vincennes afforded me some knowledge of the Indians who were assembled there to barter away the produce of their red hunt. There were four hundred or five hundred of them, men, women and children, of various tribes, as the Weeaws, Payories, Sawkies, Pyankeshaws, and Miami, all living near the Wabash. This was the first opportunity I had of observing at my leisure a people who have already become rare east of the Allegheny. It was to me a new and most whimsical sight. Bodies almost naked, tanned by the sun and air, shining with grease and soot, head uncovered, hair coarse, black, and straight, a face smeared with red, blue, and black paint, in patches of all forms and sizes ; one nostril bored to admit a ring of silver or copper ; earrings with three rows of drops down to the shoulders, and passing through holes that would admit a finger ; a little square apron before and another behind, fastened by the same string ; the legs and thighs sometimes bare and sometimes covered with cloth hose ; socks of smoke-dried leather ; sometimes a shirt with short, loose sleeves, and flowing loosely on the thighs, of variegated or striped cloth ; over

this a blanket or a square piece of cloth drawn over one shoulder and fastened under the other or under the chin. On solemn occasions, or for war, their hair is braided with flowers, feathers, or bones. The warriors have their wrists adorned with broad metal rings, and a circle round their heads of buckles or beads. They carry in their hand a pipe, knife, or tomahawk, and a little looking-glass, which they examined with as much attention and complacency as any European coquette. The females are a little more covered about the loins. They carry one or two children behind them in a sort of bag, the ends of which are tied upon the forehead.* In this aspect they have a strong resemblance to Gypsies.

The men and women roamed all day about the town, merely to get rum, for which they eagerly exchanged their peltry, their toys, their clothes, and at length when they had parted with their all, they offered their prayers and entreaties, never ceasing to drink until they had lost their senses. Hence arose ridiculous scenes. They would hold the cup with both hands, like monkeys, burst into unmeaning laughter, and gargle their beloved cup to enjoy the taste of it the longer; handed about the liquor with clamorous invitations; bawled at each other, though close together; seized their wives and poured the liquor down their throats, and, in short, displayed all the freaks of vulgar drunkenness. Sometimes tragical scenes ensue; they become mad or stupid, and, falling in the dust or mud, lie a senseless log until next day. We found them in the streets by dozens in the morning, wallowing in the filth with the pigs. It was rare for a day to pass without a deadly quarrel, by which about ten men lose their lives yearly. A savage once stabbed his wife in four places with a knife, a few paces from me. A similar event took place a fortnight before, and five such the preceding year. For this vengeance is either immediately taken, or deferred to future opportunity, by the relations of the slain, which affords fresh cause for bloodshed and treachery. I at first conceived the design of spending a few months among them, as I had done among the Bedwins, but I was satisfied with this sample, and those the best acquainted with them assured me there was no Arabian hospitality among them, that all was anarchy and disorder.†

* Some Indians have a large basket made of the outer strips of the cane, with a broad belt attached. The basket is carried at the back, and borne by the broad belt passing across the forehead of the woman.

† Yet early travellers, as Carver and Bartram, passed years among the Indians, and were not molested or injured by them. But Volney saw these Indians soon after their defeat by Wayne.

I chiefly regretted, in abandoning my scheme, the loss of an opportunity for gaining some knowledge of their language and forming a vocabulary. Some of the people of Vincennes are acquainted with the Indian dialects, but their pronunciation is so bad, and their ignorance of all grammatical distinctions so great, that they could afford me no aid.

The only person in America capable of giving me the aid I wanted was a man by the name of Wells,* who had been made captive by the Indians at thirteen years of age, and having previously had a good education, he acquired an accurate knowledge of several of their dialects while he lived among them. After the victories of Wayne in 1794 he obtained leave to return home, and was at this time acting as interpreter to the General, who was negotiating at Detroit with more than seven hundred Indians.

This agreed with my plan for visiting Niagara. I accordingly returned to Louisville, and passed through Frankfort, the capital of Kentucky, and Lexington, where, in 1782, not a house was to be seen, but which now contained near five hundred habitations, well built of brick. Thence I went to Cincinnati, and through the kindness of Major Swan, availed myself of a military convoy going to Detroit by a road formed by the army through two hundred and fifty miles of forest. Five palisaded forts, neatly constructed, were the only stages on this journey. There I met with a most flattering reception from the commander-in-chief. A severe fever and the season deprived me of the benefits I hoped from this reception.

I was obliged to seize the only opportunity that offered for crossing the lake before winter and return to Philadelphia, where, fortunately, Mr. Wells arrived in company with a noted Miami chief, called Mishikinakwa, or the Little Turtle. It was he who contributed most to the defeat of St. Clair, and well-informed officers assured me that had his plan of waylaying stragglers and cutting off convoys been followed, Wayne's army would probably have shared the same fate.†

* Wells was one of Wayne's scouts during the campaign of 1794.

† This remark of Volney conveys an erroneous idea. General Wayne had studied the errors of the two preceding campaigns—Harmar's and St. Clair's—and had resolved to profit by them. He accepted the command on condition that he was not to begin the campaign till he judged proper to do so. He disciplined his army. He knew that it was indispensable for him to use the utmost caution in his movements to guard against surprise. To secure his army against the possibility of being ambuscaded, he employed a number of the best woodsmen the frontiers afforded, to act as spies or rangers. Captain Ephraim Kirby, one of the first settlers of Columbia, eight miles above Cin-

By this accident I was furnished not only with a skilful interpreter, but with the mouth of a native to afford the true primitive words, for I soon made myself acquainted with Mr. Wells and the chief. They readily concurred with my wishes, and nine or ten visits in January and February, 1798, enabled me to draw up a vocabulary. This was my principal purpose, but the course of the conversation afforded me many hints and facts.

I am neither able nor willing to treat of savage nations in general. I shall merely speak of the aborigines of North America. I first conversed with them on the climate and soil of the Miamis. Mr. Wells informed me that the tribe dwelt on the upper branches of the Wabash; that its language is spoken by all the tribes of that river, nearly to Lake Michigan; that its dialect is nearly allied to that of the Chippewas, Ottawas and Shawanees, but quite distinct from the Delawares. The Miamis make much use of the nasal sounds, and I almost imagined I heard the Turkish."

Volney elsewhere afterwards says: "I shall here add a vocabulary of the Miami tongue, a dialect which appears to belong to the language of the Chippewa tribes, who, Mackenzie tells us, believe themselves to have *originally come from the northeast of Asia*.

The features of Little Turtle bore a strong resemblance to those of some Chinese Tartars who had been brought to Philadelphia by Van Braam, the Dutch ambassador to Pekin. This likeness between the Indians and Tartars has struck all who have seen them both; but, perhaps, some have too hastily inferred that the former are originally from Asia. As Indians have some notions of geography, I explained this theory to the chief, and laid before him a map of the contiguous parts of Asia and America. He readily recognized the great lakes, and the Ohio, Wabash, etc., and the rest he eyed with an eagerness which showed that it was new to him; but it is a rule in Indian manners never to betray surprise. When I showed him the communication by Behring Strait and the Aleutian Isles, 'Why,' said he, 'should not these Tartars, who are like us, have gone first from the American side? Are there any proofs to the contrary? Why should not their fathers and ours have been born in our country?' The Indians, indeed, give themselves the name Metoktheniaka (born of the soil).*

cinnati, who had distinguished himself as a bold and intrepid soldier in defending that infant settlement, commanded the principal part of the spies. A very effective division of the spies was commanded by Captain William Wells. It was thus that General Wayne foiled every effort of the enemy, and conquered.

* There are Mexican words, which may be said to resemble Greek words, as *Teo*, calli, the house of *God*; *Metoktheniaka*, Indian, for *born of the soil*; *Autochthon*, Greek, *indigenous, aboriginal*, resembles the preceding in sound and signification.

I have said that the Indians resemble the Asiatic Tartars, but some exceptions must be made, for the Esquimaux of the north and the gray-eyed race near Nootka Sound are each a distinct race, with no Tartarian features. The Tartar face belongs only to those who people the middle and southern regions, and who form a vast majority.* This face is not that of the Calmucks, whose flattened face and nose are not found among them. At Vincennes and Detroit I met with faces that reminded me of Bedwins and Egyptian fellahs. In the hue of their skin, quality of hair, and many other circumstances, they were alike. They likewise resemble in having a mouth shaped like a shark's, the sides lower than the front; the teeth small, regular, white and very sharp, like the tiger's. I shall say little of the custom of the Choctaws to mould the skull of the new-born child to the shape of a truncated pyramid, by pressing them between boards. This mode is so effectual that the tribe is known by the name of *Flat Heads*.

More accurate inquiries must, however, be left to the learned in America, who enjoy the best opportunities of settling the truth.

Language is the most instructive and unerring of all the monuments of rude nations. Dr. Barton has published a curious dissertation on this subject, in which he compares several of these dialects with each other and with those of the Tartarian nations of Asia. He was aided in this task by the collections made by Dr. Pallas of words in nearly three hundred Asiatic languages, by order of the Empress Catherine.

These disquisitions have led Dr. Barton to several important conclusions, though all of them do not appear to be equally well founded. I cannot discover the affinity inferred by him between the languages of the Caribbeans, Brazilians, and Peruvians, and those of the Pottawatomies, Delawares, and the Six Nations, merely from a likeness of between two or three words. I agree with him more fully in the resemblance he traces between the latter and the dialects of northeastern Asia. Much credit, however, is due to him for opening a mine of valuable and curious knowledge, a mine which ought to be explored more deeply, and by the united efforts of many learned men. In a few ages the red-men will probably perish forever. Vast numbers have already disappeared, and if the present opportunity be lost, the only clue to the affinity between the natives of America and those of the northeast of Asia will be lost."

No one was, perhaps, more capable of recognizing the resem-

* When Volney was in the United States their western boundary was the Mississippi River.

blances of the North American Indians to Egyptians, Tartars, and Bedwins, than Volney, for he was familiar with the features of these, and with those of the Indian tribes of the Wabash; and I may add to what he says of these resemblances that the Scythians, Cimmerians, and Cimbri, the earliest hordes of Central Asia, were, as described by ancient historians, similar to the American Indians in their warlike habits, dispositions, and customs. I can see scarcely any difference in the features, complexion and character of a Chinaman and a Choctaw.

Jefferson, in his "Notes on the State of Virginia," says: "The great question has arisen, from whence came these aborigines of America? Discoveries long ago made were sufficient to show that the passage from Europe to America was always practicable, even to the imperfect navigation of ancient times. Again, the late discoveries of Captain Cook, coasting from Kamschatka to California, have proven that if the two continents of Asia and America are separated at all, it is only by a narrow strait; so that from this side, also, inhabitants may have passed into America, and the resemblance between the Indians of America and the eastern inhabitants of Asia would induce us to conjecture that the former are the descendants of the latter, or the latter of the former, excepting, indeed, the Eskimaux, who, from the same circumstance of resemblance and from identity of language, must be derived from the Greenlanders, and these probably from some of the northern parts of the old continent. A knowledge of these several languages would be the most certain evidence of their derivation which could be produced. In fact it is the best proof of the affinity of nations which ever can be referred to. How many ages have elapsed since the English, the Dutch, the Germans, the Swiss, the Norwegians, Danes, and Swedes have separated from their common stock? Yet how many more must elapse before the proofs of their common origin, which exists in their several languages, will disappear? It is to be lamented, then, very much to be lamented, that we have suffered so many Indian tribes already to be extinguished without our having previously collected and deposited in the records of literature the general rudiments, at least, of the language they spoke. Were vocabularies formed of all the languages spoken in North and South America, preserving the appellations of the most common objects of nature, of those which must be present to every nation, barbarous or civilized, with the inflections of their nouns and verbs, their principles of regimen and concord, and these deposited in all the public libraries, it would furnish opportunities to those skilled in the lan-

guages of the Old World to compare them with these now, or at any future time, and hence construct the best evidence of the derivation of this part of the human race.

But imperfect as is our knowledge of the languages spoken in America, it suffices to discover the following remarkable fact. Arrange them under the radical ones to which they may be palpably traced, and doing the same with those of the red men of Asia, there will be found, probably, twenty in America for one in Asia of those radical languages, so called, because if they were ever the same they had lost all resemblance to one another. A separation into dialects may be the work of a few ages only, but for two dialects to recede from one another till they have lost all vestiges of their common origin must require an immense course of time, perhaps not less than many people give to the age of the earth. A greater number of those radical changes of language having taken place among the red men of America proves them of greater antiquity than those of Asia.*

To the views of Charlevoix, Volney and Jefferson may appropriately be added those of President D. S. Jordan, of the Leland Stanford University, on the "Urgent Needs of a National University," contained in the "Forum" of January, 1897, from which the following is quoted :

"Ever since the time of Washington our law-givers have contemplated building a university at the nation's capital. For more than a century wise men have kept this project in mind. For more than a century wise men have seen the pressing need of its accomplishment. For more than a century, however, the exigencies of politics or the indifference of political managers have caused postponement of its final consideration.

It should not be necessary to bring arguments to show the need of a National University in the United States. In its very definition a university must be above and beyond all sectarianism. Truth is as broad as the universe. It is said that in America we already have some four hundred colleges and universities, and that, therefore, we do not need any more. Quite true; we need no more like these. The splendid achievement and noble promise of our universities are not due to their number. Many of them do not show this promise. If such were to close their doors to-morrow, education would be the gainer by it. Many of the four hundred, as we well know, are not universities in fact or in spirit, but in a certain number of the strongest and freest the genuine university

* Jefferson's "Notes on the State of Virginia."

spirit is found in the highest degree. For more of these good ones there is a crying demand. Their very promise is a reason why we should do everything possible to make them better. A school can rise to be a university only when its teachers are university men—when they are men trained to face directly and effectively the problems of nature and of life. To give such training is the work of the university.

A great university at the capital of the Republic would attract the free-minded of all the earth. It should fill, with noble adequacy, the place which the graduate departments of our real universities partially occupy. Great libraries and adequate facilities for work are costly, and no American institution has yet gathered together such essentials for university work as already exist at Washington. The National Museum and the Army Medical Museum far exceed all other similar collections in America in the amount and value of the material gathered for investigation. The Library of Congress is our greatest public library, and in the nature of things it will always remain so. The Geological Survey, the Coast and Geodetic Survey, and the biological divisions of the Department of Agriculture are constantly engaged in investigations of the highest order, conducted by men of university training, and possible to no other men. The United States Fish Commission is the source of a vast part of our knowledge of the sea and of sea life. Besides these there are many other bureaus and divisions in which scientific inquiry constitutes the daily routine. The work of these departments should be made useful, not only in its conclusions, but in its methods. A university consists of investigators teaching. All that the national capital needs to make a great university of it is that a body of real scholars should be maintained to teach other men in the work now so worthily carried on. But a National University must spring from the people. It must be paid for by them, and it must have its final justification in the upbuilding of the nation. Whatever institutions the people need the people must create and control. With all their mistakes and crudities the State universities of this country constitute the most hopeful feature in our whole educational system. Doubtless the weakness and folly of the people have affected them injuriously from time to time. This is not the point. We must think of the effect they have had in curing the people of weakness and folly.

All plans for a National University provide for a non-partisan board of control. Its *ex-officio* members are to be chosen from the ablest jurists and wisest men of science the country can claim.

Such a board now controls the Smithsonian Institution and the National Museum, and no accusation of partisanship or favoritism has ever been brought against it. A university could not be otherwise than free. Its faculty could respond only to the noblest influences. No man could receive an appointment of national prominence in the face of glaring unfitness, and each man chosen to a position in a national faculty would feel the honor of his profession at stake in repelling all degrading influences. No body of men is so insusceptible to coercion or contamination as a university faculty. A scholar is a free man. He has always been so. He will always remain so. In the long run the voters of a nation must be led by its wisest men. Their wisdom must become the wisdom of the many, else the nation will perish. There is no instrument of political, social or administrative reform to be compared with the influence of a National University."

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